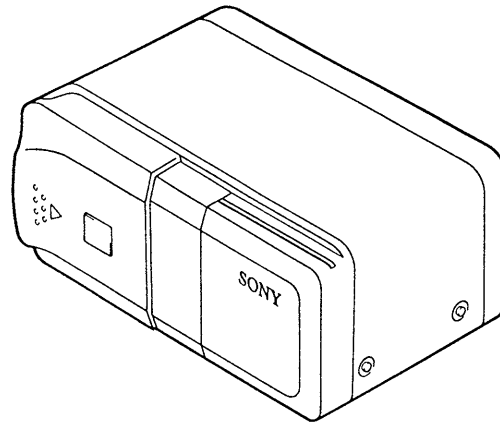


MDX-60

SERVICE MANUAL

*US Model
Canadian Model
AEP Model
UK Model
E Model*



This set is automatic electrical adjustment.

Model Name Using Similar Mechanism	NEW
Base Mechanism Type	MG-798-133
Optical Pick-Up Name	KMS-193B/J

SPECIFICATIONS

System Mini disc digital audio system
Frequency response 20 – 20,000 Hz
Wow and flutter Below measurable limit
Signal-to-noise ratio 95 dB
Outputs Bus control output (8 PIN)
Analog audio output (RCA PIN)
Current drain 300 mA (MD playback)
600 mA (during loading or ejecting a disc)
Dimensions Approx. 176 × 83.5 × 125 mm (w/h/d)
not incl. projecting parts and controls
Mass Approx. 1.1 kg
Power requirement 12 V DC car battery
(negative ground)

Supplied accessories

Mounting hardware (1 set)
Bus cable 5.5 m (1)
RCA pin cord 5.5 m (1)

- U.S. and foreign patents licensed from Dolby Laboratories Licensing Corporation.
- Design and specifications subject to change without notice.

MINIDISC CHANGER SYSTEM
SONY®

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CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

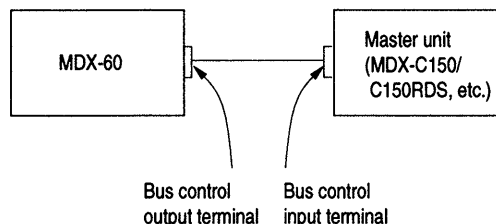
SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK \triangle OR DOTTED LINE WITH MARK \triangle ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SERVICING NOTE

[To place this set in the play mode]

This set does not have the key control function, and therefore it cannot activate the play mode by itself. Also, the key control to this set is done through a serial communication with the master unit (SONY Bus System compatible car audio, TV tuner, source selector, etc.). Accordingly, if repairing this set, connect as shown below:

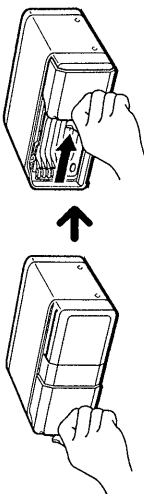


ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE \triangle SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

Preparations/Préparatifs/Vorbereitungen/Preparazione

- 1** Slide the door open until it clicks. Ouvrez le panneau frontal en le faisant coulisser jusqu'à ce qu'il s'encliquette.



About one minute after opening the door, the inside compartment will be lit.

Le compartiment intérieur s'éclaire environ une minute après avoir ouvert le panneau frontal.

Das Innere des Fachs wird nach dem Öffnen der Klappe ungefähr eine Minute lang beleuchtet.

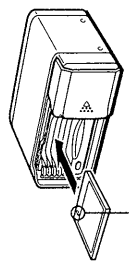
Do not reach into the changer, you may get hurt.

N'introduisez pas les doigts à l'intérieur du changeur. Vous risqueriez de vous blesser.

Greifen Sie nicht in den Wechsler. Andernfalls besteht Verletzungsgefahr.

Non introdurre le dita nell'apparecchio. È pericoloso.

- 2** Insert an MD until it clicks. Introduisez un MD jusqu'à ce qu'il s'encliquette. Legen Sie eine MD ein. Achten Sie darauf, daß sie einrastet. Inserire un minidisco fino a sistemarlo con uno scatto.



Insert an MD with the arrow and label facing up. Introduisez un MD avec la flèche et l'étiquette orientées vers le haut.

Legen Sie eine MD mit dem Pfeil und der Beschriftung nach oben ein.

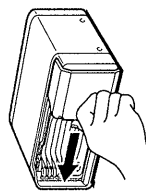
Inserire un minidisco con la freccia e l'etichetta rivolte verso l'alto.

- Notes**
- Do not insert an MD with the label facing downwards.
 - Make sure the MD's shutter is closed before inserting it into the magazine.
- Remarques**
- N'introduisez pas un MD avec l'étiquette vers le bas.
 - Assurez-vous que le volet du MD est fermé avant de l'introduire dans le magasin.
- Hinweise**
- Legen Sie eine MD nicht mit der Beschriftung nach unten ein.
 - Achten Sie darauf, daß der Verschluss der MD geschlossen ist, bevor Sie sie in das Magazin einlegen.
- Note**
- Non inserire minidisci con l'etichetta rivolta verso il basso.
 - Accertarsi che l'attuatore del minidisco sia chiuso prima del collocamento nel contenitore.

- 3** Slide the door closed until it clicks. Refermez le panneau frontal en le faisant coulisser jusqu'à ce qu'il s'encliquette.

Schließen Sie die Klappe, indem Sie sie wieder zurückschieben, bis sie einrastet.

Chiudere lo sportello facendolo scorrere fino a udire uno scatto.



Note

When an MD is inserted and the door is closed, or the reset button of the connected car audio is pressed, the unit will be automatically activated and read the information on the MDs. After the information on all of the MDs in the disc magazine has been read, the unit is ready to play.

Remarque

Quand un chargeur de disques est inséré dans le changeur de MD ou si la touche de réinitialisation de l'autoradio raccordé est enclenchée, l'appareil se met automatiquement en marche et reproduit les MD. Lorsque les informations de tous les MD du chargeur ont été lues, l'appareil se met en mode de lecture.

Hinweis

Wenn Sie eine MD in den Wechsler einlegen und die Klappe schließen oder die Rücksetztaste an der angeschlossenen Autoradio drücken, wird das Gerät automatisch aktiviert, und die Informationen auf der MD werden eingelesen. Wenn die Informationen aller MDs im MD-Magazin eingelesen wurden, ist das Gerät bereit für die Wiedergabe.

Always use the unit with the door closed. Otherwise, foreign matter may enter the unit and contaminate the lenses inside the changer.

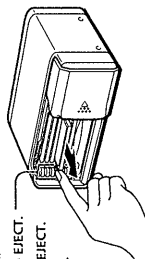
Le panneau frontal doit toujours être fermé en cours d'utilisation. Sinon, des corps étrangers risquent de pénétrer à l'intérieur et de souiller les lentilles du changeur.

Nota

Quando viene inserito un minidisco nel cambiatore o viene premuto il pulsante di reimpostazione dell'autoradio collegato, l'apparecchio si attiva automaticamente e legge i dati dei minidischi. Al termine della lettura di tutti i dati dei minidischi presenti nel cambiatore, l'apparecchio è pronto per la riproduzione.

To remove an MD/Pour retirer un MD/Entnehmen einer MD/Estrazione di un minidisco

You can remove MDs anytime except while one is playing. Vous pouvez retirer des MD à tout moment sauf en cours de lecture. Sie können MDs außer während der Wiedergabe einer MD jederzeit entnehmen. I minidischi possono essere estratti in qualsiasi momento tranne durante la riproduzione.



- Notes**
- When removing two or more MDs, remove them in order from the upper tray.
 - Do not press the EJECT button while the unit is playing or reading an MD.
- Remarques**
- Si vous retirez deux MD ou plus, commencez par le plateau supérieur.
 - N'appuyez pas sur la touche EJECT pendant que l'appareil est en cours de lecture ou de reproduction d'un MD.

Hinweise

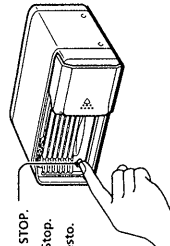
- Wenn Sie zwei oder mehr MDs entnehmen, nehmen Sie zunächst die in den weiter oben liegenden Fächern heraus.
- Drücken Sie die Taste EJECT nicht, während das Gerät eine MD abspielt oder die Informationen auf der MD einliest.

Note

- Quando si estraggono due o più minidischi, procedere all'estrazione a partire dal contenitore più in alto.
- Non premere il tasto EJECT durante la riproduzione o la lettura di un minidisco.

To remove the MD in the play position/Pour retirer le MD en position de lecture/Entnehmen einer MD an der Wiedergabeposition/Estrazione di un minidisco pronto per la riproduzione

Press the stop button. Appuyez sur la touche STOP. Drücken Sie die Taste Stop. Premere il tasto di arresto.



The MD backs out to the loading position. Press the EJECT button, and remove the MD. You can also remove an MD in this way while it's playing. Le MD quitte la position de chargement. Appuyez sur la touche EJECT et retirez le MD. Vous pouvez retirer un MD de cette façon lorsqu'il est en cours de lecture ou dans la position de lecture. Drücken Sie die Taste EJECT, und nehmen Sie die MD heraus. Auf diese Art können Sie eine MD herausnehmen, die gerade abgespielt wird bzw. die sich an der Wiedergabeposition befindet.

Il minidisco ritorna nella posizione di caricamento. Premere il tasto EJECT ed estrarre il minidisco. Seguire questa procedura per estrarre un minidisco pronto per la riproduzione o in fase di riproduzione.

Features

- Sony BUS system compatible with mobile MD changers.
- **Direct-in system** for inserting and removing MDs easily.
- Compact and space-saving design for installation in a glove box or on an armrest.
- **No waiting time to change discs** in continuous play.
- Efficient operation in the dark as lighting in the changer compartment comes on when you open its door.
- 1 bit Digital/Analog converter for high quality sound reproduction.

Notes on minidisks

Since the MD itself is housed in a cartridge, free from accidental contact with your fingers and dust etc., it can withstand a certain degree of rough handling. However, dirt or dust on the surface of the cartridge or a warped cartridge may cause a malfunction in the unit.

To enjoy optimum sound quality, observe the following.

Never touch the surface of the MD itself by deliberately opening the shutter on the cartridge.

Notes on mounting labels

Be sure to mount labels on cartridges correctly, as failing to do so may cause an MD to become stuck in the changer.

- Mount the label in a suitable position.
- Remove old labels before putting new ones on.
- Replace labels that are beginning to peel away from the MD.

Do not expose the MD to direct sunlight or heat sources such as hot air-ducts. Do not leave it in a car parked in direct sunlight where there can be a considerable rise in temperature.

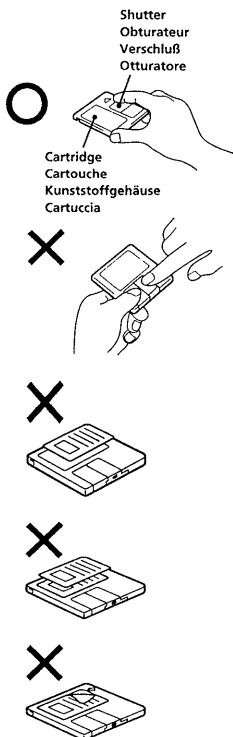
Make sure that it is not left on the dashboard or the rear tray of a car etc. where the temperature can also be excessive.

Cleaning

Wipe the surface of the MD cartridge from time to time with a soft dry cloth.

Moisture condensation

On a rainy day or in a very damp area, moisture may condense on the lenses inside the unit. Should this occur, the unit will not operate properly. In this case, remove the MD and wait for about an hour until the moisture evaporates.



Installation/Installation/Installation/Installazione

Precautions

- Avoid installing the unit in a place:
 - subject to temperatures exceeding 55°C (such as in a car parked in direct sunlight).
 - subject to direct sunlight.
 - near heat sources (such as heaters).
 - exposed to rain or moisture.
 - exposed to excessive dust or dirt.
 - subject to excessive vibration.
- Choose the mounting location carefully, observing the following:
 - The fuel tank should not be damaged by the tapping screws.
 - There should be no wire harnesses or pipes under the place where you are going to install the unit.
 - The spare tire, tools or other equipment in or under the trunk should not be interfered with or damaged by the screws or the unit itself.
- Before installing in a glove box or on a console box, be sure the installation will not interfere with the main unit's cords and cables, and that the installation belt does not prevent the cover from opening.

Mounting angle adjustment/Réglage de l'angle de montage/Einstellen des Montagewinkels/Regolazione dell'inclinazione di montaggio

You may install the unit at any positive angle as long as it is attached to a secure part of the car.

Vous pouvez installer l'appareil sous n'importe quel angle positif, pour peu qu'il soit fixé à un endroit sûr de la voiture.

Sie können das Gerät in jedem beliebigen positiven Winkel an einem unbeweglichen Teil im Wageninneren montieren.

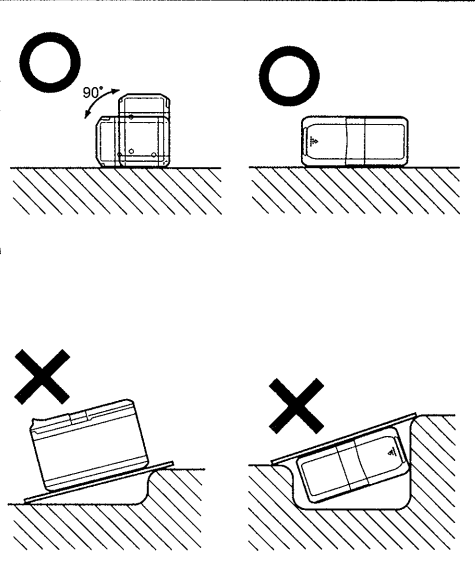
L'apparecchio può essere installato con qualsiasi inclinazione di grado positivo, a condizione che sia montato su una parte fissa dell'auto.

Do not install the unit on a detached mounting board for placement on uneven surfaces or upside down.

N'installez pas l'appareil sur une plaque de montage amovible en vue d'une installation sur un support inégal ou à l'envers.

Installieren Sie das Gerät nicht auf einer losen Montageplatte, wie sie zur Montage auf unebenen Oberflächen erhältlich ist, und nicht auf dem Kopf stehend.

Non installare l'apparecchio su un piano di montaggio, su superfici inclinate o capovolto.



Use the supplied screws/Utilisez les vis fournies/

Verwenden Sie die mitgelieferten Schrauben/Utilizzare le viti in dotazione

Be sure to install this unit with the supplied screws ③. If you have to find replacement screws, use screws with the following specifications.

Installez cet appareil à l'aide des vis fournies ③. Si vous étiez amené à utiliser des vis de remplacement, sélectionnez des vis satisfaisant aux spécifications suivantes.

Installieren Sie das Gerät möglichst mit den mitgelieferten Schrauben ③. Falls Sie Ersatzschrauben benötigen sollten, verwenden Sie Schrauben mit folgenden Spezifikationen.

Installare l'apparecchio con le viti in dotazione ③. Se si necessita di viti sostitutive, utilizzare viti che rispondano ai seguenti requisiti.

Replacement screw max. size

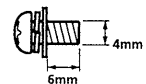
M4 × 6mm

Vis de remplacement max. M4 × 6mm

Ersatzschraube max. Größe M4 × 6mm

Viti sostitutive Dimensione max.

M4 × 6mm



To prevent damage to the unit, do not use screws longer than 6 mm.

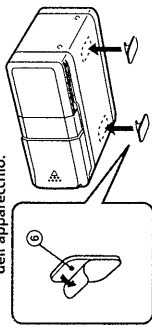
Pour éviter d'endommager l'appareil, n'utilisez pas de vis d'une longueur supérieure à 6 mm.

Um das Gerät nicht zu beschädigen, dürfen Sie keine Schrauben verwenden, die länger als 6 mm sind.

Per evitare danni all'apparecchio, non utilizzare viti più lunghe di 6 mm.

Glove box or console box installation/dans une boîte à gants ou sur un boîtier de console/Installation im Handschuhfach oder im Konsolenfach/Installazione nel vano portaoggetti o nel cruscotto

1 Tear off the backing, and attach the double-sided adhesive tapes ⑥ to the bottom of the unit.
Décollez la protection et appliquez les bandes adhésives double face ⑥ sur le fond de l'appareil.
Lösen Sie die Schutzfolie, und bringen Sie die Doppelklebestreifen ⑥ an der Unterseite des Geräts an.
Staccare la pellicola antiaderente e applicare il nastro adesivo ⑥ a doppio lato nella parte inferiore dell'apparecchio.



Notes

- Before attaching the unit, be sure that nothing interferes with the operation of the unit, and that the unit does not interfere with the glove box or console box cover.
- When you install the main unit in a glove box, be sure to install the unit at a positive angle.

Remarques

- Avant de fixer l'appareil, assurez-vous que rien ne puisse gêner son fonctionnement et que l'appareil n'entrave pas l'ouverture du couvercle de la boîte à gants ou du boîtier de console.
- Si vous installez l'appareil principal dans une boîte à gants, montez-le suivant un angle positif.

2 Remove any dirt or stains from the surface you're going to mount the unit on, then attach the unit.

Éliminez la poussière ou les souillures de la surface de montage de l'appareil et fixez ensuite l'appareil dessus.

Entfernen Sie Staub oder Schmutz von der Oberfläche, auf der Sie das Gerät montieren wollen, und bringen Sie dann das Gerät an.

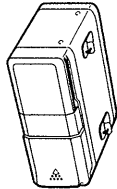
Eliminare eventuali tracce di sporco o macchie dalla superficie su cui verrà montato l'apparecchio e quindi collocarvi quest'ultimo.

Hinweise

- Achten Sie vor dem Anbringen des Geräts darauf, daß es ohne Hindernisse bedient werden kann und daß es beim Öffnen oder Schließen des Handschuh- oder Konsolenfachs nicht hinderlich ist.
- Wenn Sie das Hauptgerät im Handschuhfach installieren, achten Sie darauf, daß Sie es in einem positiven Winkel anbringen.

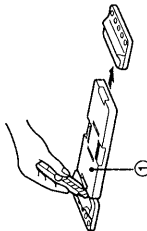
Note

- Prima di collocare l'apparecchio, verificare che nulla ostruisca il coperchio del vano portaoggetti o del cruscotto.
- Quando l'apparecchio centrale viene installato in un vano portaoggetti, verificare di installare l'apparecchio con un'inclinazione di grado positivo.



Console box or armrest installation/Installation sur un accoudoir/Installation auf der Konsole oder der Armstütze/Installazione nel cruscotto o nel bracciolo

1 Cut off both sides of ① with a box knife.
Découpez les deux côtés de ① à l'aide d'un cutter.
Trennen Sie die beiden Seiten von ① mit einem Cutter-Messer ab.
Tagliare entrambi i lati di ① con un temperino.



2 Attach part ① to the unit with the supplied screws ③.

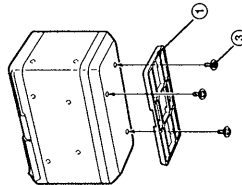
Fixez la partie ① sur l'appareil à l'aide des vis fournies.
Bringen Sie Teil ① mit den mitgelieferten Schrauben ③ am Gerät an.
Applicare il componente ① all'apparecchio mediante le viti in dotazione ③.

Vertical installation

Installation verticale

Vertikale Installation

Installazione verticale

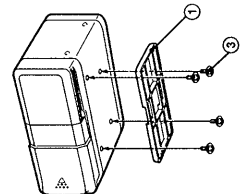


Horizontal installation

Installation horizontale

Horizontale Installation

Installazione orizzontale



3

Pass the belt ⑤ through ①, and wrap the belt around the console box lid or the armrest cover. Be sure that installation does not interfere with shift lever operation.

Faites passer la sangle ⑤ par ① et enroulez-la autour du couvercle du boîtier de console ou de l'accoudoir. Assurez-vous que la position de montage ne gêne pas le maniement du levier de changement de vitesses.

Führen Sie den Riemen ⑤ durch die Lasche an Teil ① und dann um den Konsolenfachdeckel oder die Armstützenabdeckung. Achten Sie darauf, daß Sie bei dieser Installation den Schalthebel ungehindert bedienen können.

Far passare la cinghia ⑤ attraverso ① e avvolgerla intorno al coperchio del cruscotto o a quello del bracciolo. Accertarsi che l'installazione non ostruisca il funzionamento delle leve di spostamento.

If the installation surface is slippery or uneven, use the supplied pad ⑦.

Si la surface de montage est glissante ou inégale, utilisez le support de montage fourni ⑦.

Wenn die Montageoberfläche rutschig oder uneben ist, benutzen Sie die mitgelieferte Montageunterlage ⑦. Se la superficie d'installazione è scivolosa o ruvida, utilizzare il cuscinetto in dotazione ⑦.

Thread the belt as shown.

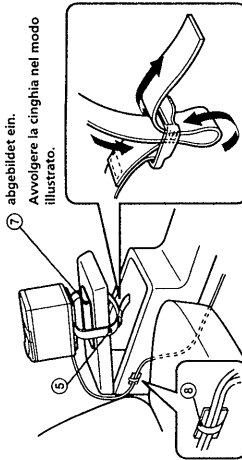
Fixez la sangle comme illustré.

Fädeln Sie den Riemen wie unten

abgebildet ein.

Avvolgere la cinghia nel modo

illustrato.



Install the cord loosely so that the armrest cover can open freely.

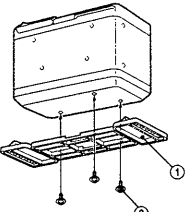
Installez le cordon sans le tendre de façon à pouvoir ouvrir aisément le couvercle de l'accoudoir.

Lassen Sie die Kabel locker hängen, so daß die Armstützenabdeckung problemlos geöffnet werden kann. Installare il cavo senza stringerlo in modo che il coperchio del bracciolo possa aprirsi liberamente.

Under the passenger's seat or floor installation/Installation sous le siège du passager ou sur le plancher/Installation unter dem Beifahrersitz bzw. auf dem Boden/Installazione sotto il sedile o sul pavimento del lato passeggero

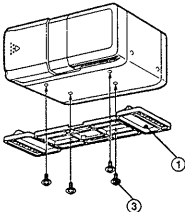
1 Attach part ① to the unit with the supplied screws ③.
Bringen Sie Teil ① mit den mitgelieferten Schrauben ③ am Gerät an.

Vertical installation
Installation verticale
Vertikale Installation
Installazione verticale

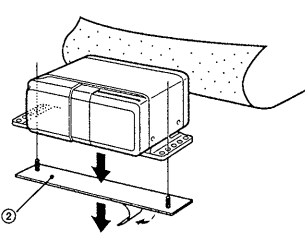


fixez l'élément ① sur l'appareil à l'aide des vis ③ fournies.
Applicare il componente ① all'apparecchio mediante le viti in dotazione ③.

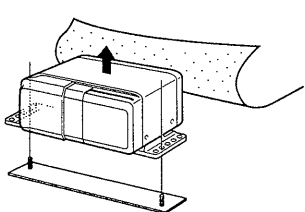
Horizontal installation
Installation horizontale
Horizontale Installation
Installazione orizzontale



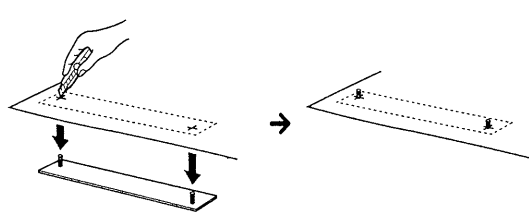
2 Decide on the installation position, and remove any dirt or stains from that surface. Place the changer onto the mounting pad ②, then peel the backing and stick ② to the floor.
Choisissez la position d'installation et nettoyez la surface de montage de toute trace de poussière ou de souillures. Placez le changeur sur le support de montage ②, décollez-en la protection et fixez-le ② sur le plancher.
Legen Sie die Montagestelle fest, und entfernen Sie Staub oder Schmutz von der Oberfläche. Stellen Sie das Gerät auf die Montageunterlage ②, lösen Sie dann die Schutzfolie, und kleben Sie ② auf den Boden.
Scegliere la posizione di installazione ed eliminare eventuali tracce di sporco o macchie dalla superficie. Sistemare il cambiatore sul tappetino di montaggio ②, quindi staccare la pellicola antiaderente e applicare il tappetino al pavimento.



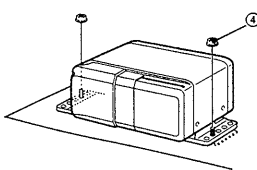
3 Remove the MD changer.
Retirez le changeur de MD.
Nehmen Sie das MD-Wechlersystem herunter.
Togliere il cambiatore MD.



4 Make cuts in the carpet with a box knife.
Découpez le tapis de sol à l'aide d'un cutter.
Schneiden Sie mit einem Cutter-Messer eine geeignete Aussparung in die Fußmatte.
Tagliare il tappetino con un temperino.

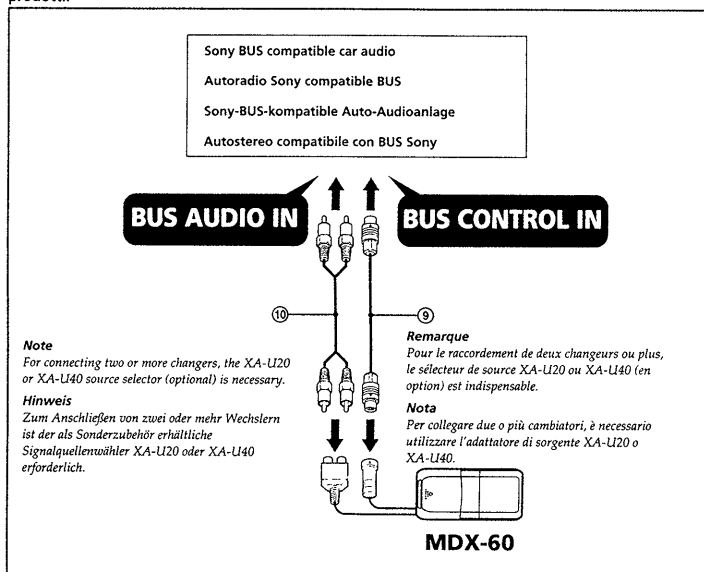


5 Mount firmly with the nuts ④.
Fixez l'ensemble solidement au moyen des écrous ④.
Befestigen Sie das Gerät mit den Muttern ④.
Fissare l'apparecchio con gli appositi dadi ④.



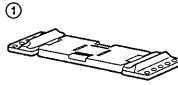
Connections/Connexions/ Anschluß/Collegamenti

For details, refer to the Installation/Connection manuals of each product.
Pour plus de détails, consulter le manuel d'installation/raccordement fourni avec chaque appareil.
Einzelheiten entnehmen Sie bitte der Installations-/Anschlußanleitung des jeweiligen Geräts.
Per maggiori dettagli, fare riferimento al manuale di installazione/di collegamento dei singoli prodotti.




Parts for installation and connections
Pièces de montage et de raccordement
Montageteile und Anschlußzubehör
Componenti per installazione e collegamenti


① ×1




② ×1




③ ×4




④ ×2




⑤ ×1




⑥ ×3 (incl. 1 reserve)
(1 réserve comprise)
(einschl. 1 Teil als Ersatz)
(compresa 1 riserva)



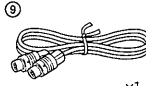
⑦ ×1



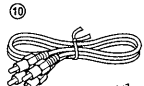
⑧ ×3



⑨ ×1



⑩ ×1

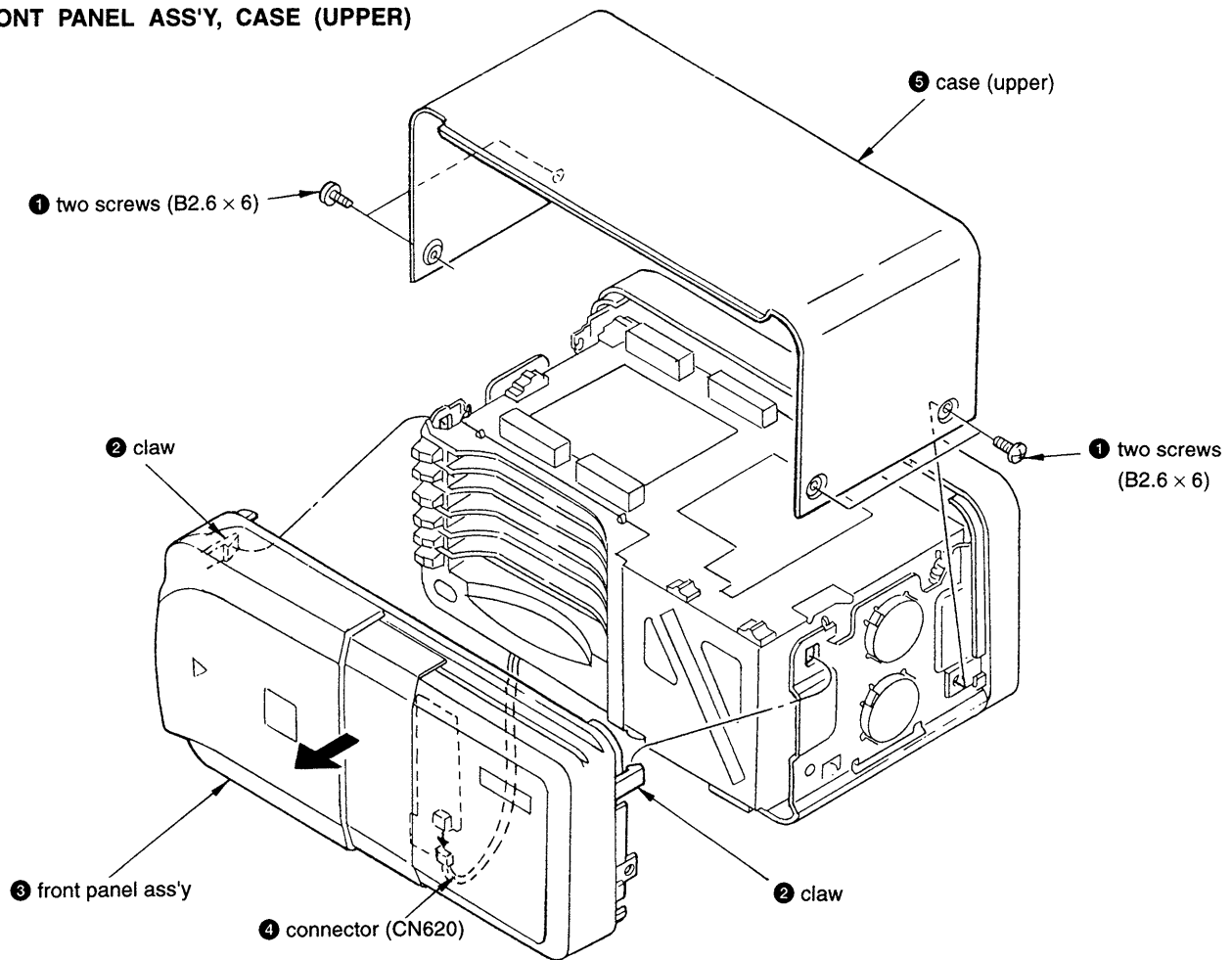


SECTION 2

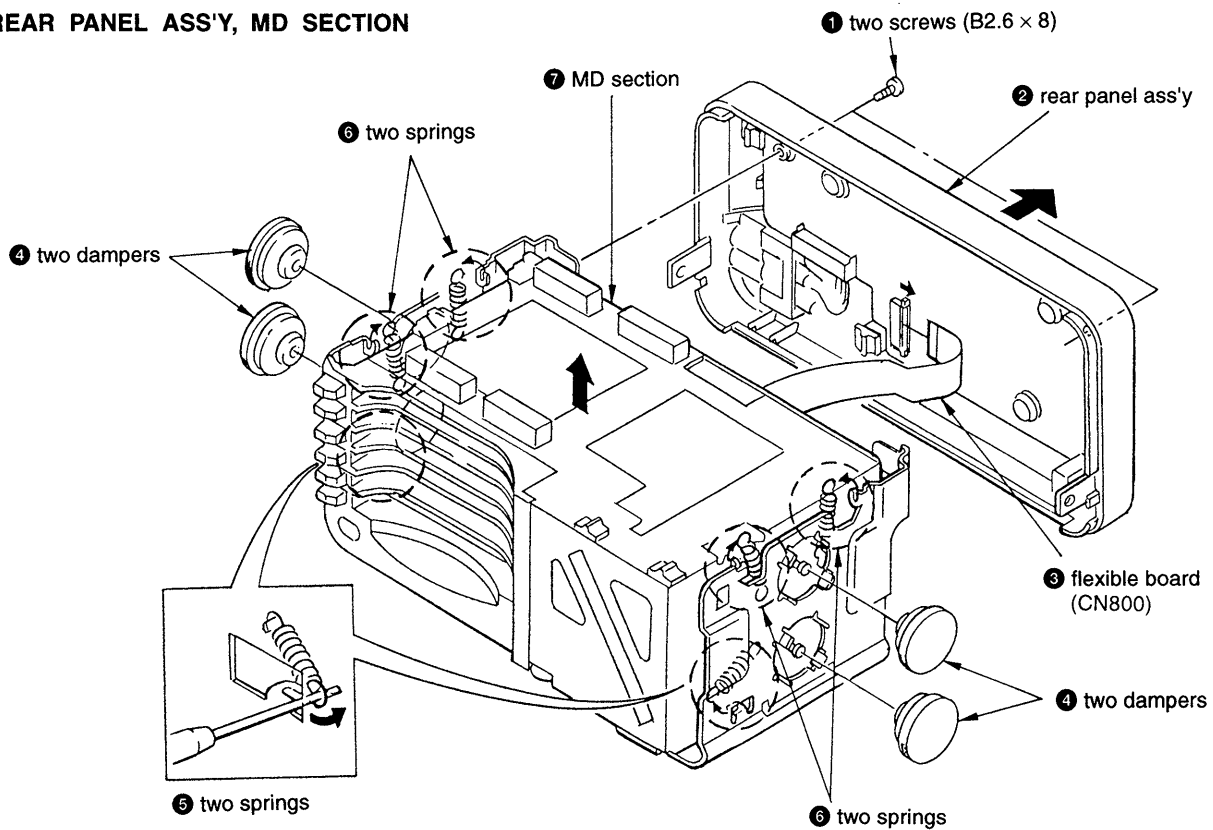
DISASSEMBLY

Note: Follow the this assembly procedure in the numerical order given.

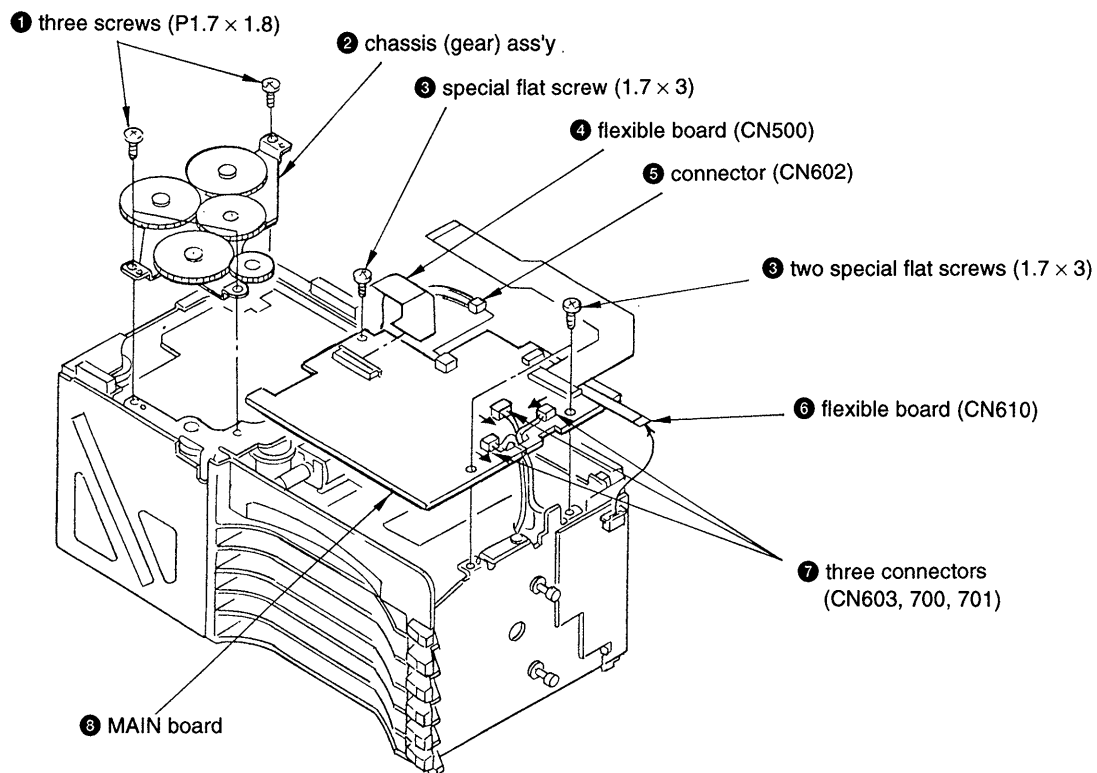
FRONT PANEL ASS'Y, CASE (UPPER)



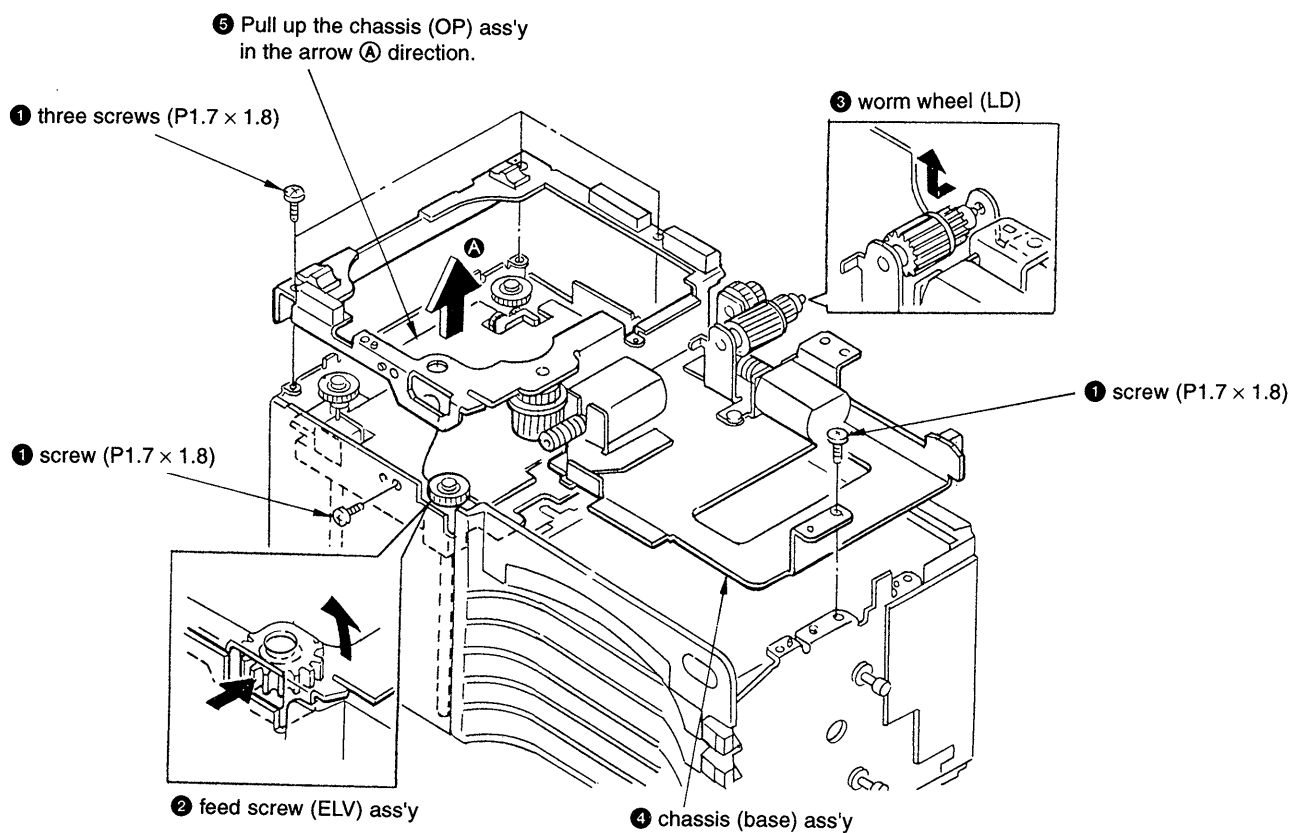
REAR PANEL ASS'Y, MD SECTION



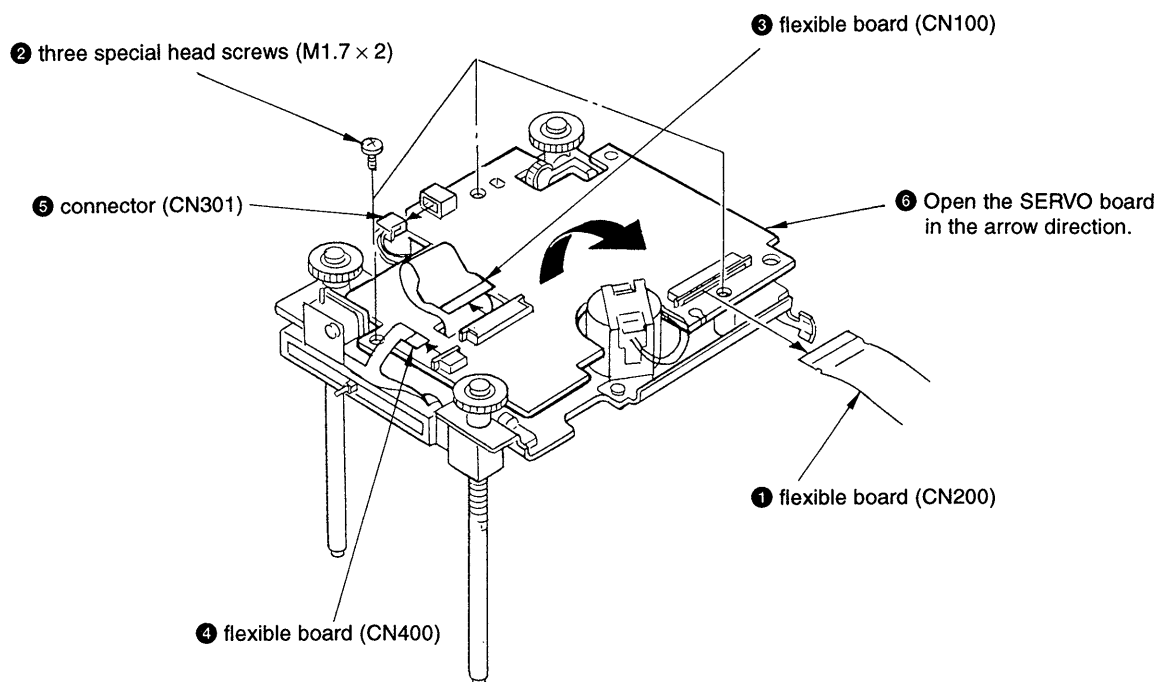
CHASSIS (GEAR) ASS'Y, MAIN BOARD



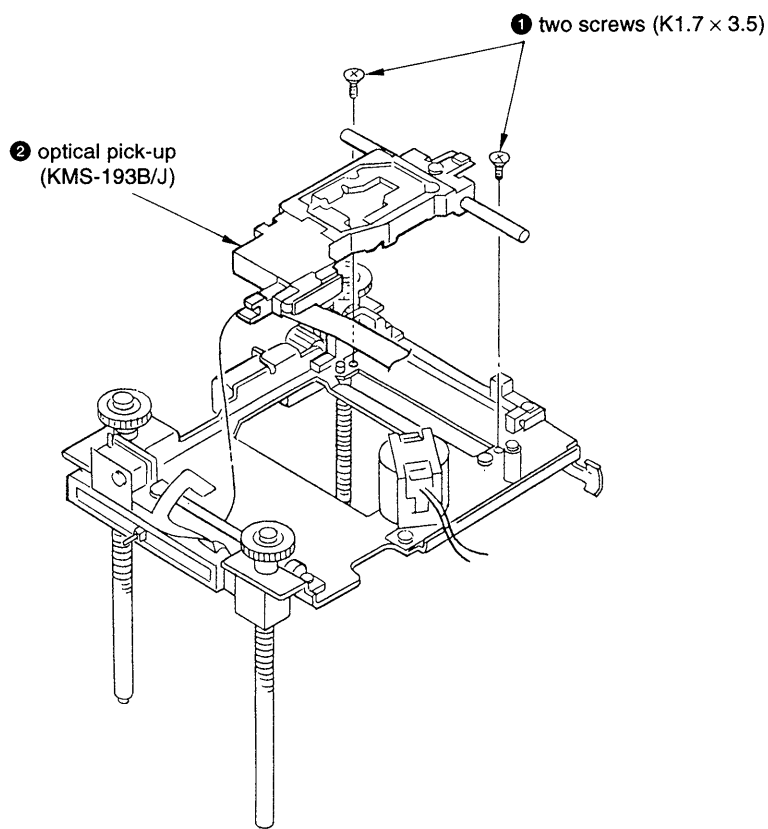
CHASSIS (BASE) ASS'Y, CHASSIS (OP) ASS'Y



SERVO BOARD



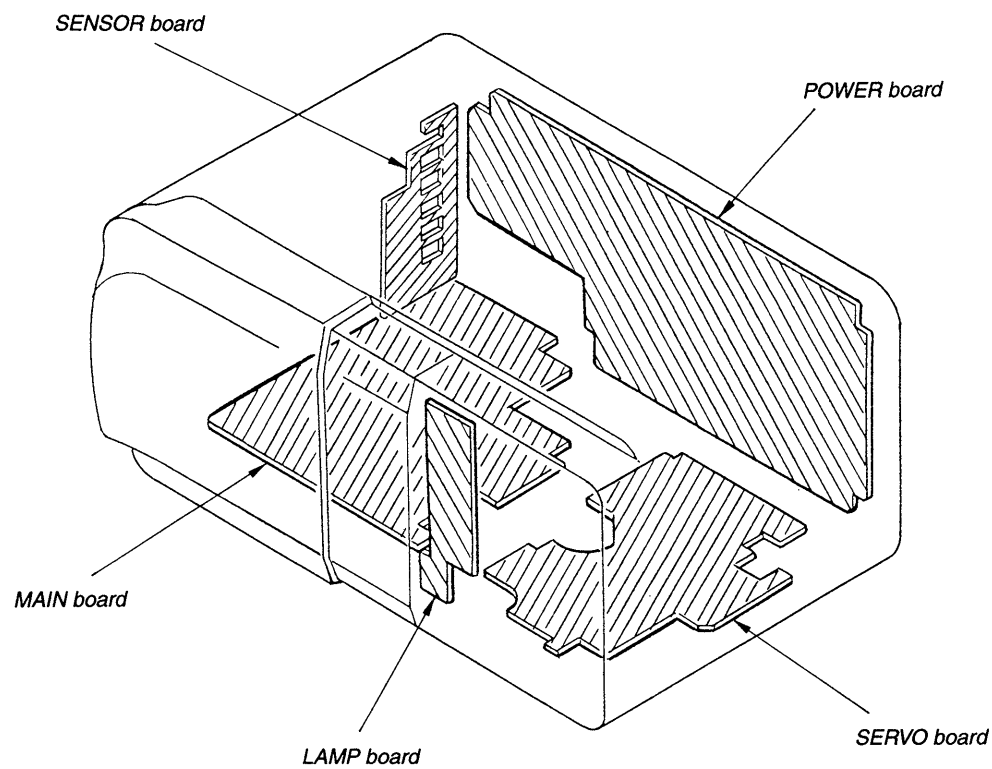
OPTICAL PICK-UP (KMS-193B/J)



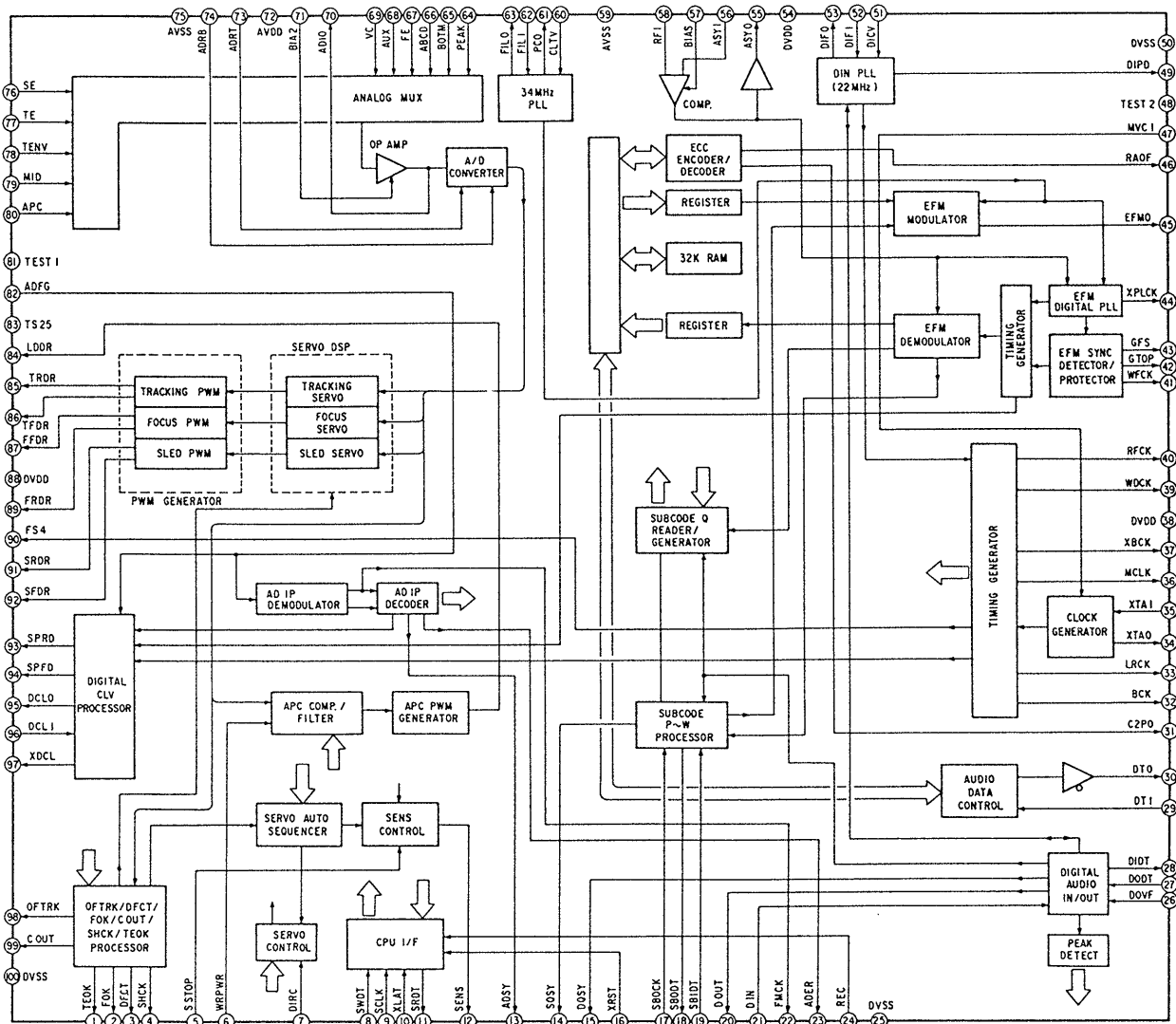
SECTION 3

DIAGRAMS

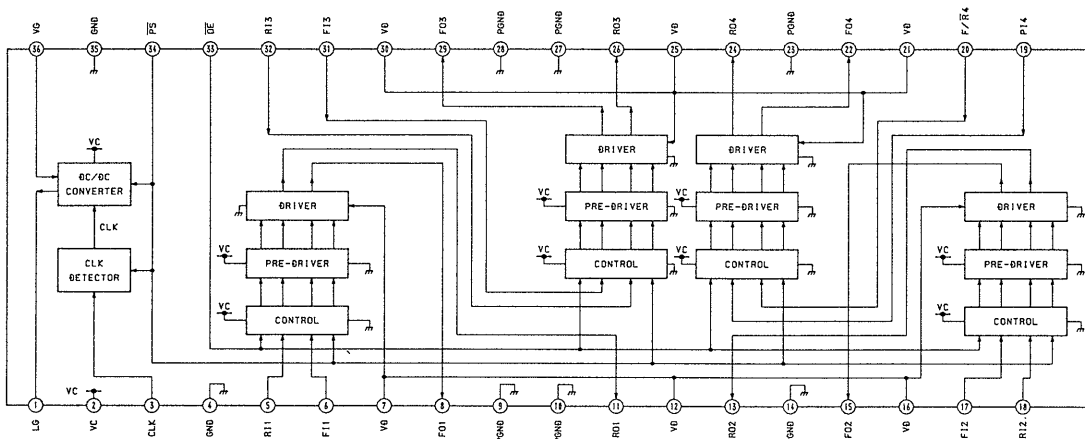
3-1. CIRCUIT BOARDS LOCATION



• IC Block Diagrams (RF/SERVO section)
IC200 CXD2535BR-1 (SERVO board)



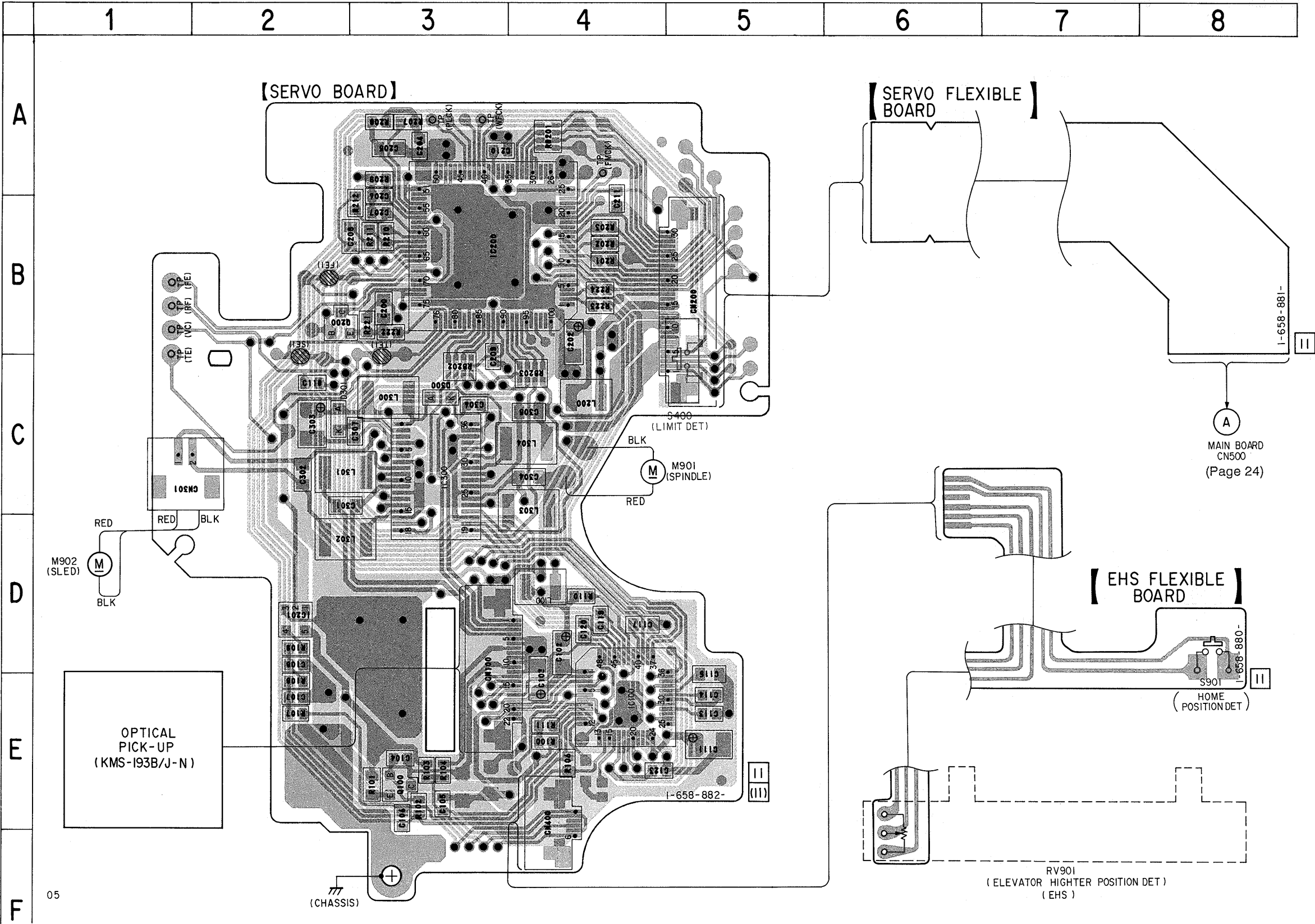
IC300 MPC17A38VMEL (SERVO board)



3-2. PRINTED WIRING BOARDS – RF/SERVO SECTION –
• Refer to page 10 for Circuit Boards Location.

• Semiconductor Location



Ref. No.	Location
D300	C-3
D301	C-2
IC100	E-4
IC200	B-3
IC201	D-2
IC300	C-3
Q100	E-3
Q200	B-2



- : parts extracted from the conductor side.
- : Through hole.
- ▨ : Pattern on the side which is seen.
- ▩ : Pattern of the rear side.
- : Chip components extracted from the rear side.

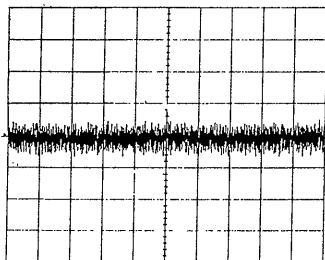


<p>Note : The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.</p>	<p>Note : Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.</p>
---	---

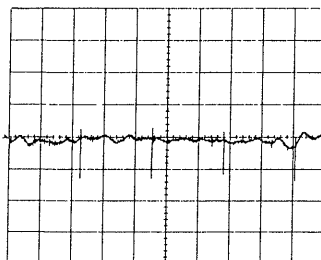
-  : B+ Line
- Power voltage is supplied by connected the multi control audio master system (WX-C700).
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
no mark : PLAY
- Voltages are taken with a VOM (Input impedance 10M Ω)
Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
 : PLAY

• Waveforms (RF/SERVO section)

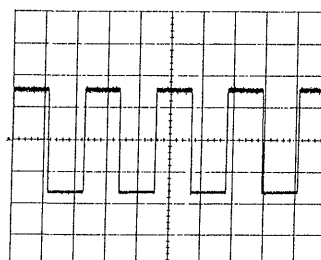
❶ IC100 ❷ (A) PLAY MODE
Approx. 200mVp-p, 500 μ s



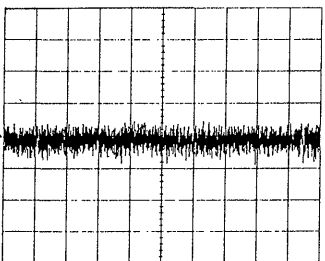
❸ IC100 ❸ (FE) PLAY MODE
Approx. 1Vp-p, 500 μ s



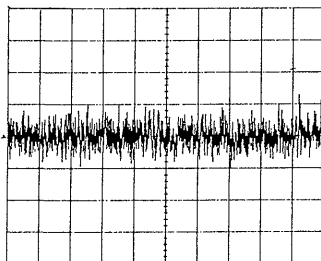
❹ IC200 ❸ (LRCK)
1Vp-p, 10 μ s



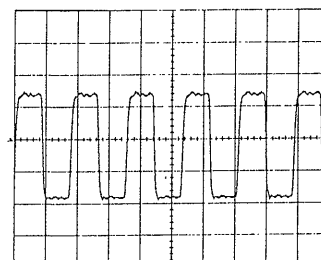
❺ IC100 ❹ (E) PLAY MODE
Approx. 100mVp-p, 500 μ s



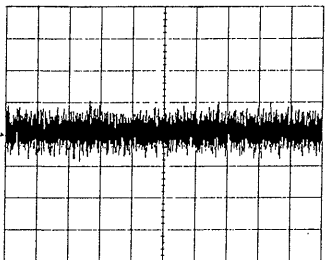
❻ IC100 ❺ (TE) PLAY MODE
Approx. 200mVp-p, 5 μ s



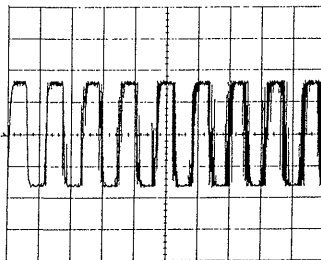
❼ IC200 ❹ (BCK)
1Vp-p, 2 μ s



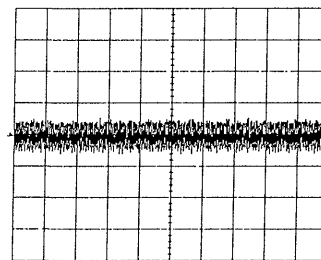
❽ IC100 ❻ (F) PLAY MODE
Approx. 100mVp-p, 500 μ s



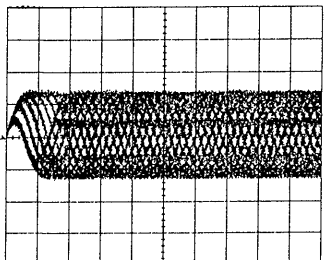
❾ IC200 ❺ (XPLCK)
1Vp-p, 200ns



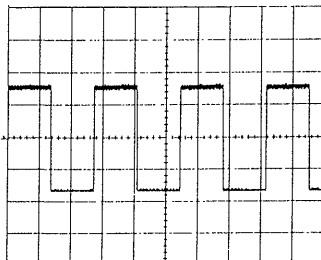
❿ IC200 ❻ (FMCK)
100mVp-p, 2 μ s



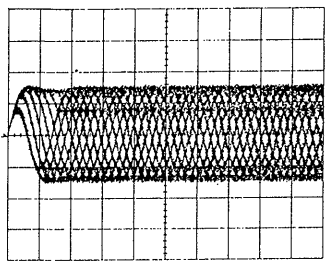
⓫ IC100 ❼, ❽ (J, I) PLAY MODE
Approx. 200mVp-p, 1 μ s



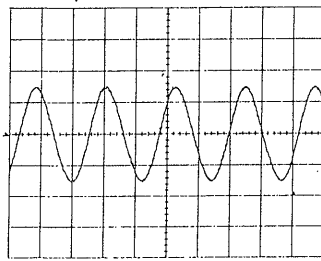
⓬ IC200 ❼ (WFCK)
1Vp-p, 50 μ s



⓭ IC100 ❻ (RF) PLAY MODE
Approx. 500mVp-p, 1 μ s

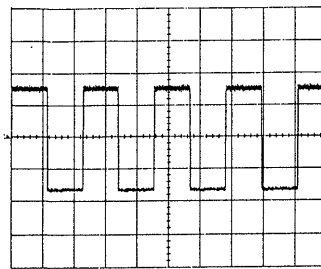


⓮ IC200 ❽ (XTAI)
3Vp-p, 22.5792MHz

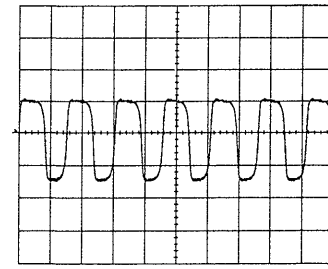


• Waveforms (MAIN section)

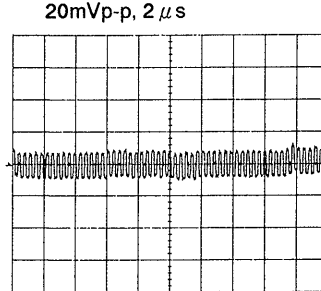
① IC500 (L)RCK
1Vp-p, 10 μs



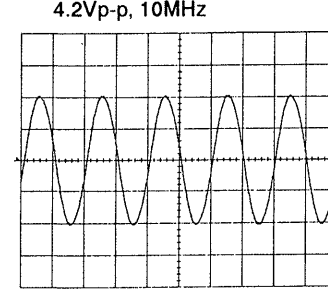
⑥ IC600 (TX)
5.2Vp-p, 32.768kHz



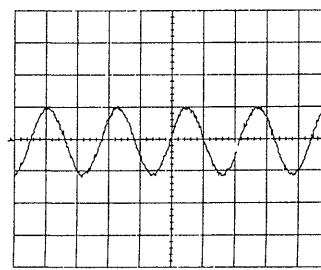
② IC500 (B)CK
20mVp-p, 2 μs



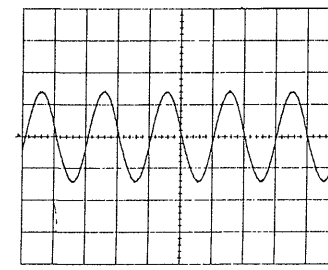
⑦ IC600 (XTAL)
4.2Vp-p, 10MHz



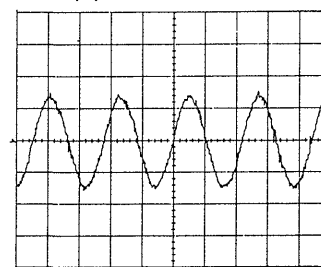
③ IC500 (OSC)I
1.5Vp-p, 45.1584MHz



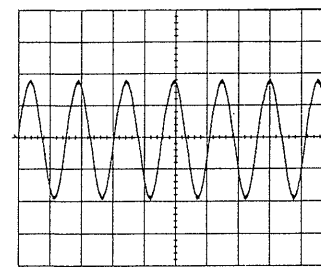
⑧ IC600 (EXTAL)
2.9Vp-p, 10MHz



④ IC500 (OSCO)
4Vp-p, 45.1584MHz

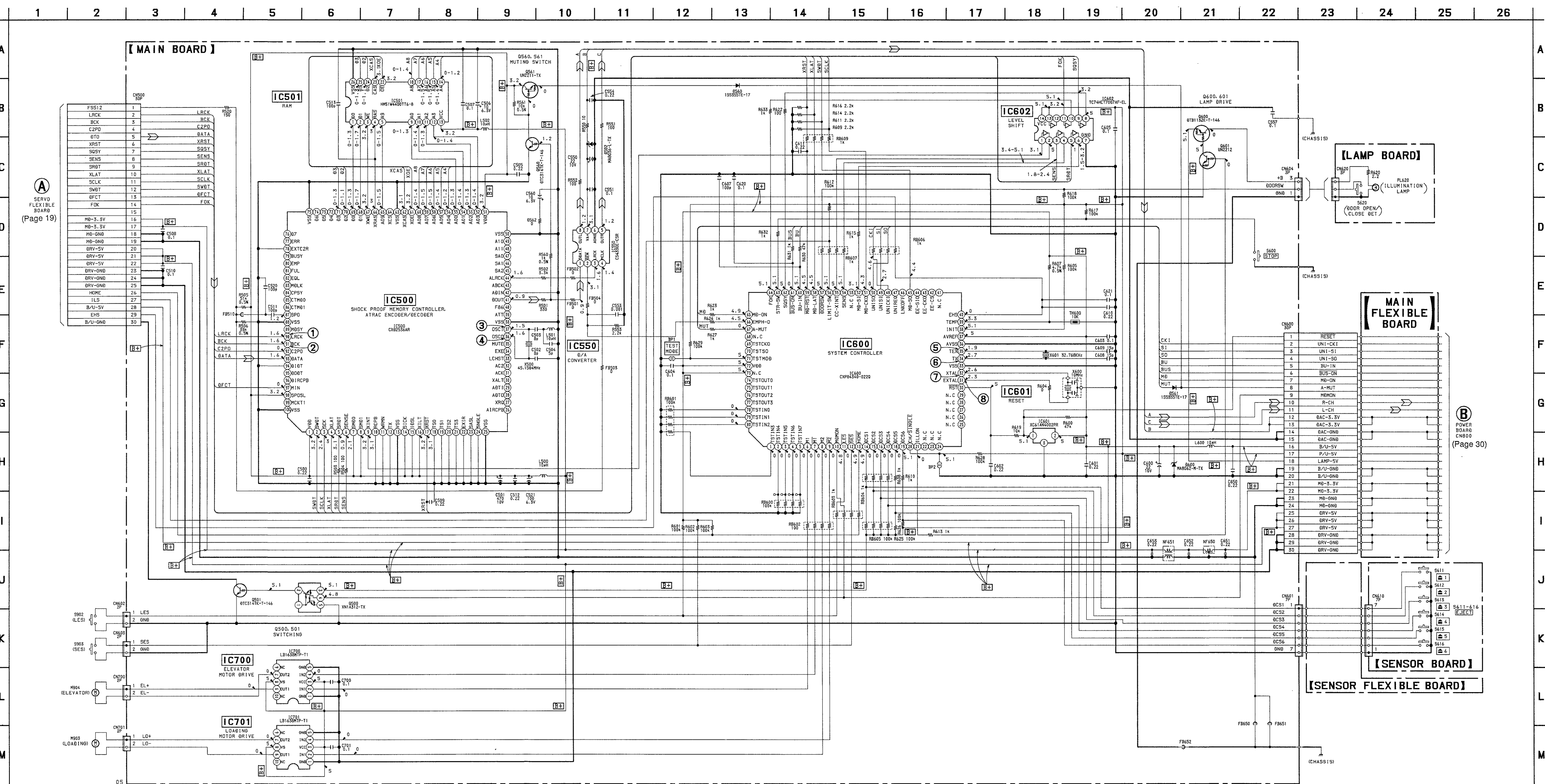


⑤ IC600 (TEX)
1.9Vp-p, 32.768kHz



- All capacitors are in μF unless otherwise noted. pF : μF
- 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- [B+] : B+ Line
- Power voltage is supplied by connected the multi control audio master system.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- no mark : PLAY
- Voltages are taken with a VOM (input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path
- [D] : PLAY






3-4. SCHEMATIC DIAGRAM – MAIN SECTION –



• Refer to page 10 for Circuit Boards Location.



Ref. No.	Location
D502	F-8
D560	F-4
D561	F-2
D600	H-3
IC500	H-8
IC501	H-7
IC550	F-8
IC600	G-9
IC601	H-3
IC602	F-8
IC700	F-10
IC701	F-9
Q500	D-8
Q501	E-8
Q560	G-4
Q561	F-4
Q600	H-8
Q601	H-8

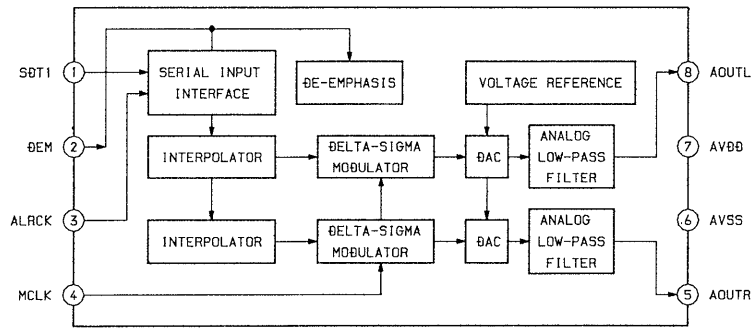
-  : parts extracted from the component side.
-  : parts extracted from the conductor side.
-  : Through hole.
-  : internal component.
-  : Pattern from the side which enables seeing.
(The other layers' patterns are not indicated)

Caution :

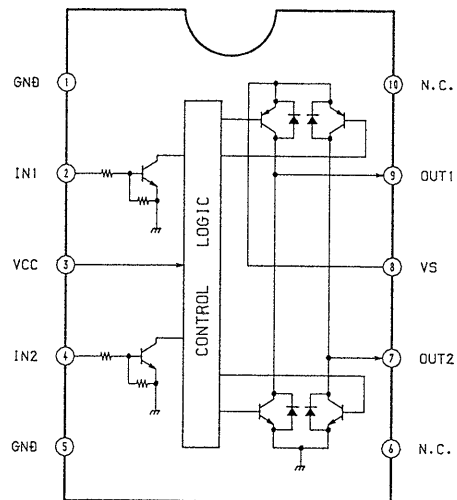
Pattern face side : (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side : (Component side)	Parts on the parts face side seen from the parts face are indicated.

• IC Block Diagrams (MAIN section)

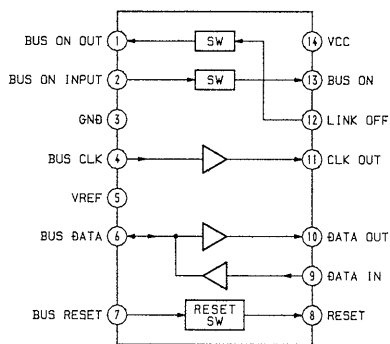
IC550 CS4330E-CSR



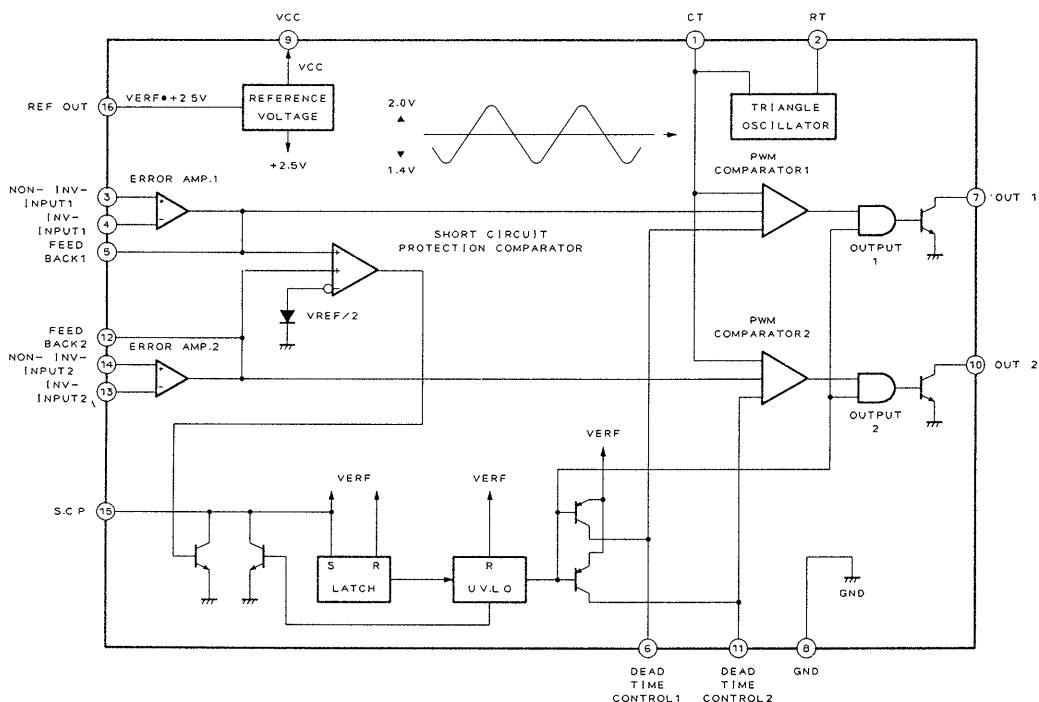
IC700, 701, LB1638M



- IC Block Diagrams (POWER section)

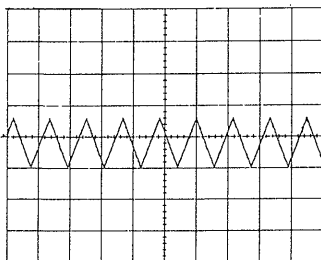
IC900 MM1284XFFE

IC950 TL1451 ACDB-E20



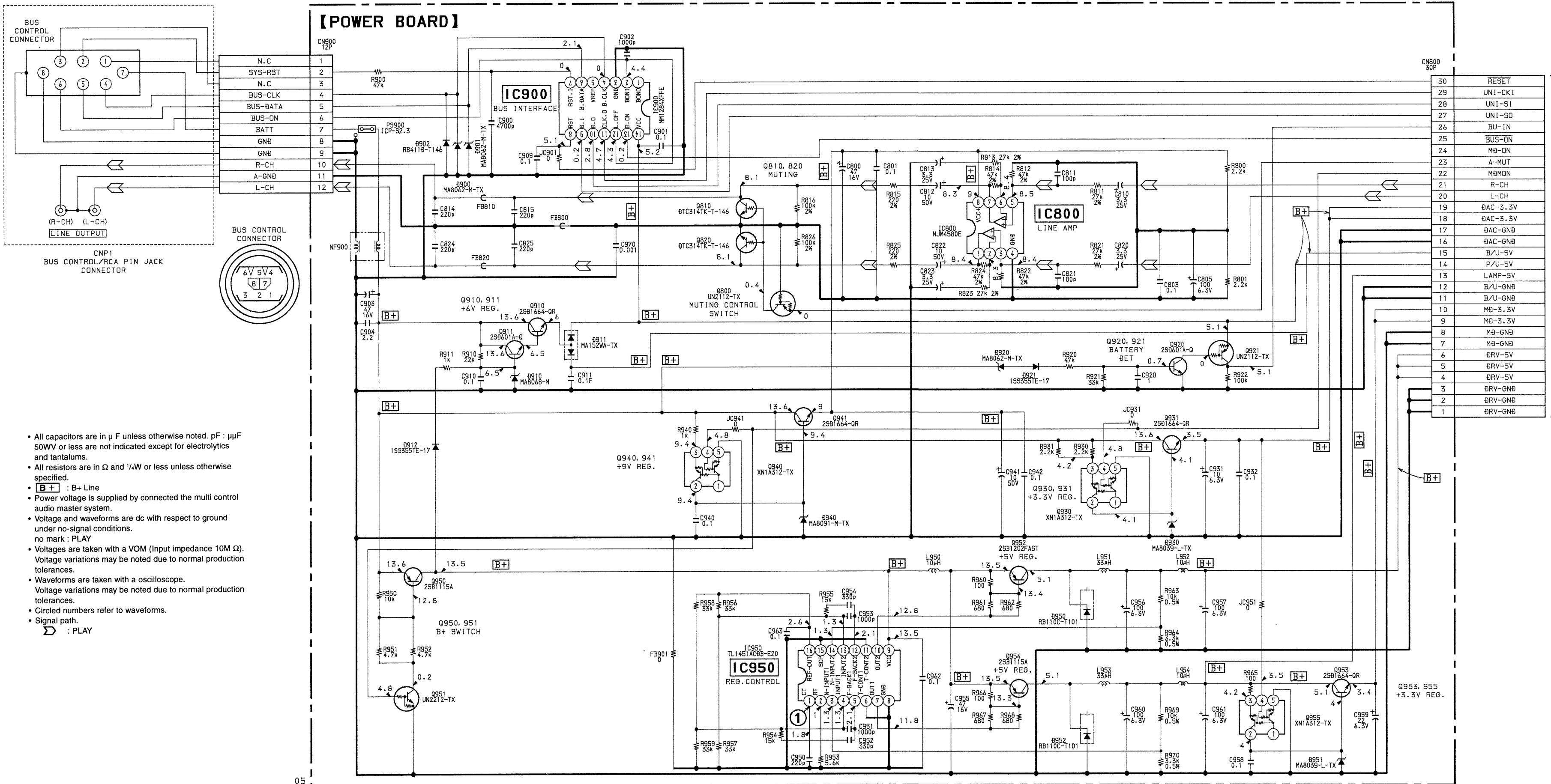
- **Waveform (POWER section)**

① IC950 ① (CT)
0.8V_{p-p}, 430kHz



3-6. SCHEMATIC DIAGRAM -POWER SECTION



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19



- All capacitors are in μ F unless otherwise noted. pF : μ F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4W$ or less unless otherwise specified.
- B+** : B+ Line
- Power voltage is supplied by connected the multi control audio master system.
- Voltage and waveforms are dc with respect to ground under no-signal conditions. no mark : PLAY
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.



Ref. No.	Location	Ref. No.	Location
D900	B-9	Q800	D-8
D901	C-9	Q810	D-9
D902	B-9	Q820	D-8
D910	B-9	Q910	C-10
D911	C-10	Q911	C-9
D912	G-10	Q920	E-10
D920	D-10	Q921	E-9
D921	E-10	Q930	F-8
D930	F-8	Q931	F-8
D940	E-10	Q940	E-10
D950	I-7	Q941	F-10
D951	G-7	Q950	G-10
D952	G-9	Q951	G-10
		Q952	I-8
IC800	D-9	Q953	H-7
IC900	C-9	Q954	G-9
IC950	I-9	Q955	G-8

- : parts extracted from the component side.
-  : Through hole.
-  : Pattern from the side which enables seeing.
(The other layers' patterns are not indicated)

Caution :

Pattern face side : Parts on the pattern face side seen from
(Conductor Side) the pattern face are indicated.

Parts face side : Parts on the parts face side seen from the
(Component side) parts face are indicated.

3-8. IC PIN FUNCTION DESCRIPTION

SERVO BOARD IC100 CXA1981AR (RF AMP)

Pin No.	Pin Name	I/O	Description
1	VC	O	Output terminal for the center point voltage (1/2 VCC) generated
2-7	A-F	I	Signal input from detector circuit in the optical pick-up block
8	FI	I	Signal (-) input of the operational amplifier for F signal
9	FO	O	Signal output of the operational amplifier for F signal
10	PD	I	Front monitor Connected to the photo diode
11	APCREF	I	Input terminal for the setting of laser power
12	TEMPI	I	Terminal for the connection to temperature sensor Not used this set (OPEN)
13	GND	-	GND terminal
14	AAPC	O	LD amplifier output terminal of APC circuit
15	DAPC	O	Not used (OPEN)
16	TEMPR	O	Output terminal of the reference voltage for temperature sensor Not used this set (OPEN)
17	$\overline{\text{XRST}}$	I	Reset signal input from the system controller (IC600) When reset : "L"
18	SWDT	I	Write data signal input from the system controller (IC600)
19	SCLK	I	Clock signal input from the system controller (IC600)
20	XLAT	I	Latch signal input from the system controller (IC600)
21	VREF	O	Reference voltage output Not used this set (OPEN)
22	TENV	O	Not used (OPEN)
23	THLD	I	Not used (OPEN)
24	VCC	-	Power supply terminal (+3.3V)
25	TFIL	I	Not used (OPEN)
26	TE	O	Tracking error signal output to CXD2535BR (IC200)
27	TLB	I	Input terminal of the adder signal to tracking error
28	CSLED	I	Terminal for the sled error lowpass filter
29	SE	O	Sled error signal output to CXD2535BR (IC200)
30	ADFM	O	FM signal output terminal of the ADIP
31	ADIN	I	Input terminal by AC coupling is FM signal of the ADIP
32	ADAGC	I	External capacitor connect terminal for AGC of the ADIP
33	ADFG	O	ADIP double turned FM signal output to CXD2535BR (IC200) (22.05kHz \pm 1kHz)
34	AUX	O	Sub signal output to CXD2535BR (IC200)
35	FE	O	Focus error signal output to CXD2535BR (IC200)
36	FLB	I	Input terminal of the adder signal to focus error
37	ABCD	O	Light amount signal output to CXD2535BR (IC200)
38	BOTM	O	Light amount bottom hold signal output to CXD2535BR (IC200)
39	PEAK	O	Light amount peak hold signal output to CXD2535BR (IC200)
40	PFAGC	I	External capacitor connect terminal of AGC circuit for the RF
41	RF	O	Playback EFM RF signal output to CXD2535BR (IC200)
42	ISSET	I	Setting terminal for the internal circuit constant 22kHz, BPF center frequency
43	AGCI	I	Input terminal by AC coupling is RF signal
44	RFO	O	RF signal output terminal
45	MORFI	I	Input terminal by AC coupling is RFsignal of the MO
46	MORFO	O	RF signal output terminal of the MO
47, 48	I, J	I	Signal input from detector circuit in the optical pick-up block

SERVO BOARD IC200 CDX2535BR (DIGITAL SIGNAL PROCESSOR, DIGITAL SERVO SIGNAL PROCESSOR, EFM/ACIRC ENCODER/DECODER)

Pin No.	Pin Name	I/O	Description
1	FS256	O	11.2896MHz clock signal output (MCLK system) Not used this set (OPEN)
2	FOK	O	Focus OK signal output to the system controller (IC600) "H" is output when the focus is applied
3	DFCT	O	Defect ON/OFF selection signal output to CXD2536AR (IC500)
4	SHCK	O	Track jump detection signal output to the system controller Not used this set (OPEN)
5	SHCKEN	I	Track jump detection enable input Not used this set (Fixed at "L")
6	WRPWR	I	Laser power selection signal input from the system controller Not used this set (Fixed at "L")
7	DIRC	I	Not used this set (Fixed at "H")
8	SWDT	I	Write data signal input from the system controller (IC600)
9	SCLK	I	Serial clock signal input from the system controller (IC600)
10	XLAT	I	Serial latch signal input from the system controller (IC600)
11	SRDT	O	Read data signal output to the system controller (IC600)
12	SENS	O (3)	Internal status (SENS) output to the system controller (IC600)
13	ADSY	O	ADIP sync signal output Not used this set (OPEN)
14	SQSY	O	Sub-code Q sync (SCOR) output to the system controller (IC600) "L" every 13.3msec, Almost "H"
15	DQSY	O	Digital in U-bit CD format sub-code Q sync (SCOR) output to the system controller (IC600) "L" every 13.3msec, Almost "H"
16	XRST	I	Reset signal input from the system controller (IC600) When reset "L"
17	TEST4	I	Test input terminal (Fixed at "L")
18	CLVSCK	O	Not used this set (OPEN)
19	TEST5	I	Test input terminal (Fixed at "L")
20	DOUT	O	Output terminal of the digital audio signal (for optical out) Not used this set (OPEN)
21	DIN	I	Input terminal of the digital audio signal (for optical out) (Fixed at "L")
22	FMCK	O	FM modulation clock signal output of the ADIP Not used this set (OPEN)
23	ATER	O	ADIP CRC flag output When error "H" Not used this set (OPEN)
24	REC	I	Record/playback selection signal input from the system controller When recording : "H", when playback : "L" (Fixed at "L")
25	DVSS	-	GND terminal (Digital system)
26	DOVF	I	Validity flag input terminal for the digital audio out Not used this set (Fixed at "L")
27	DODT	I	Input terminal of 16-bit data signal for the digital audio out Not used this set (Fixed at "L")
28	DIDT	O	Output terminal of 16-bit data signal for the digital audio in Not used this set (OPEN)
29	DTI	I	Record audio data signal input from CXD2536AR (IC500)
30	DTO	O (3)	Plyback audio data signal output to CXD2536AR (IC500)
31	C2PO	O	C2PO (indicate the error state of the data) signal output to CXD2536AR (IC500) Playback : C2PO ("H"), Digital recording : D. In-Vflag, Analog recording : "L"
32	BCK	O	Bit clock (2.8224MHz) signal output to CXD2536AR (IC500) (MCLK system)
33	LRCK	O	L/R clock (44.1kHz) signal output to CXD2536AR (IC500) (MCLK system)
34	XTAO	O	System clock (512Fs=22.5792MHz) signal output Not used this set (OPEN)
35	XTAI	I	System clock (512Fs=22.5792MHz) signal input from CXD2536AR (IC500)
36	MCLK	O	MCLK clock (22.5792MHz) signal output Not used this set (OPEN)
37	XBCK	O	BCK (pin 32) inverted output Not used this set (OPEN)
38	DVDDO	-	Power supply terminal (+3.3V) (Digital system)
39	WDCK	O	WDCK clock (88.2kHz) signal output (MCLK system) Not used this set (OPEN)
40	RFCK	O	RFCK clock (7.35kHz) signal output (MCLK system) Not used this set (open)

Pin No.	Pin Name	I/O	Description
41	WFCK	O	WFCK clock (7.35kHz) signal output (When playback : EFM decoder PLL system, When recoding : EFM encoder PLL system) Not used this set (OPEN)
42	GTOP	O	Opens the playback EFM frame sync protection window when "H" Not used this set (OPEN)
43	GFS	O	The playback EFM frame sync and interpolation protection timing match when "H" Not used this set (OPEN)
44	XPLCK	O	EFM decoder PLL clock (98Fs=4.3218MHz) signal output Falling edge of the EFM PLL clock and the EFM signal match Not used this set (OPEN)
45	EFMO	O	FM signal output (When recoding) Not used this set (OPEN) Overflow detection signal output of the internal RAM (Decoder monitor out)
46	RAOF	O	RAOF is signal generated when the 32k RAM exceeds the $\pm 4F$ jitter margin Not used this set (OPEN)
47	MVCI	I	Oscillation input for PLL of the digital in Not used this set (Fixed at "L")
48	TEST2	I	Test terminal input (Fixed at "L")
49	DIPD	O (3)	Phase comparator output for PLL of the digital in When the internal VCO : Frequency ; Low→"H" When the external VCO : Frequency ; Low→"L" Not used this set (OPEN)
50	DVSS	–	GND terminal (Digital system)
51	DICV	I (A)	Control voltage input terminal of the internal VCO for digital in PLL
52	DIFI	I (A)	Filter input terminal of the internal VCO for digital in PLL Not used this set (Fixed at "L")
53	DIFO	O (A)	Filter output terminal of the internal VCO for digital in PLL Not used this set (OPEN)
54	AVDD	–	Power supply terminal (+3.3V) (Analog system)
55	ASYO	O	Playback EFM full-swing output (L=VSS, H=VDD)
56	ASYI	I (A)	Playback EFM asymmetry compare voltage input terminal
57	BIAS	I (A)	Playback EFM asymmetry circuit constant current input terminal
58	RFI	I (A)	Playback EFM RF signal input from CXA1981AR (IC100)
59	AVSS1	–	GND terminal (Analog system)
60	CLTV	I (A)	VCO control voltage input terminal of the PLL for decoder PLL master clock
61	PCO	O (3)	Phase comparator output terminal of the PLL for decoder PLL master clock
62	FILI	I (A)	Filter input terminal of the PLL for decoder PLL master clock
63	FILO	O (3)	Filter output terminal of the PLL for decoder PLL master clock
64	PEAK	I (A)	Light amount peak hold signal input from CXA1981AR (IC100)
65	BOTM	I (A)	Light amount bottom hold signal input from CXA1981AR (IC100)
66	ABCD	I (A)	Light amount signal input from CXA1981AR (IC100)
67	FE	I (A)	Focus error signal input from CXA1981AR (IC100)
68	AUX1	I (A)	Sub signal input from CXA1981AR (IC100)
69	VC	I (A)	Center point voltage (1/2 VCC)input from CXA1981AR (IC100)
70	ADIO	O (A)	Monitor output of the A/D converter input signal Not used this set (OPEN)
71	TEST3	I (A)	Test input terminal (Fixed at "L")
72	AVDD2	–	Power supply terminal (+3.3V) (Analog system)
73	ADRT	I (A)	A/D converter action limits (upper side) voltage input (Fixed at "H")
74	ADRB	I (A)	A/D converter action limits (lower side) voltage input (Fixed at "L")
75	AVSS2	–	GND terminal (Analog system)
76	SE	I (A)	Sled error signal input from CXA1981AR (IC100)
77	TE	I (A)	Tracking error signal input from CXA1981AR (IC100)
78	AUX2	I (A)	Sub signal input terminal (2) from CXA1981AR (IC100)
79	DCHG	I (A)	Connected to the GND
80	APC	I (A)	Input terminal for the laser APC Not used this set (Fixed at "L")
81	TEST1	I	Test input terminal (Fixed at "L")

Pin No	Pin Name	I/O	Function
82	ADFG	I	ADIP double turned FM signal input from CXA1981AR (IC100) (22.05kHz \pm 1kHz) (TTL schmidt input)
83	TS25	I	Test input terminal (Fixed at "L")
84	LDDR	O	Laser APC signal output to CXA1981AR (IC100)
85	TRDR	O	Tracking servo drive signal output (-)
86	TRDR	O	Tracking servo drive signal output (+)
87	FFDR	O	Focus servo drive signal output (+)
88	DVDD1	I	Power supply terminal (+3.3V) (Digital system)
89	FRDR	O	Focus servo drive signal output (-)
90	FS4	O	176.4kHz clock signal output (MCLK system) Not used this set (OPEN)
91	SRDR	O	Sled servo drive signal output (-)
92	SFDR	O	Sled servo drive signal output (+)
93	SPRD	O	Spindle servo drive signal output (-)
94	SPFD	O	Spindle servo drive signal output (+)
95	DCLO	O	Not used (OPEN)
96	DCL1	I	Not used (Fixed at "H")
97	XDCL	O	Not used (OPEN)
98	OFTRK	O	Offtrack signal output Not used this set (OPE)
99	COUT	O	Traverse count signal output Not used this set (OPE)
100	DVSS2	-	GND terminal (Digital system)

*: On I/O section

(3) : 3 state output (A) : Analog output

**MAIN BOARD IC500 CXD2536AR (SHOCK PROOF MEMORY CONTROLLER,
ATRAC ENCODER/DECODER)**

Pin No.	Pin Name	I/O	Description
1	VDD	–	Power supply terminal (+3.3V)
2	SWDT	I	Write data signal input from the system controller (IC600)
3	SCK	I	Serial clock signal input from the system controller (IC600)
4	XLAT	I	Serial latch signal input from the system controller (IC600)
5	SRDT	O	Read data signal output to the system controller (IC600)
6	SENSE	O	Internal status (SENSE) output to the system controller (IC600)
7	SCMD0	I	Serial command control mode input from the system controller (Fixed at “H”)
8	SCMD1	I	Serial command control mode input from the system controller (Fixed at “H”)
9	XINT	O	Interruption status output to the system controller (IC600)
10	RCPB	I	Record/playback selection signal input (Fixed at “L”)
11	WRMN	I	Write/monitor mode selection signal input from the system controller (Fixed at “L”)
12	TX	I	Writing data transmission timing input from the system controller Used together with the magnetic field head ON/OFF output (Fixed at “L”)
13	VSS	–	GND terminal
14	SICK	I	Chip reserve terminal (Fixed at “H”)
15	IDSL	I	Chip reserve terminal (Fixed at “H”)
16	XILT	I	Chip reserve terminal (Fixed at “H”)
17	$\overline{\text{XRST}}$	I	Reset signal input from the system controller (IC600) When reset : “L”
18-21	TS0-TS3	I	Test input terminal (Fixed at “L”)
22	EXIR	I	Chip reserve terminal (Fixed at “L”)
23	SASL	I	Single use the block selection “L” : ATRAC, “H” : RAM controller (Fixed at “L”)
24	SNGLE	I	Normally fixed at “L”, Fixed at “H” when the ATRAC or RAM controller is single used (Fixed at “L”)
25	VSS	–	GND terminal
26	AIRCPB	O	Record/playback mode signal output terminal of the ATRAC or external audio block
27	XRQ	I/O	XRQ signal input/output terminal of the ATRAC interface
28	ADTO	I/O	Decoder data signal input/output terminal of the ATRAC
29	ADTI	I/O	Encoder data signal input/output terminal of the ATRAC
30	XALT	I/O	Data ready and XALT signal input/output terminal of the ATRAC interface
31	ACK	I/O	ACK signal input/output terminal of the ATRAC interface
32	AC2	I/O	Error data signal input/output terminal of the ATRAC interface
33	LCHST	I/O	Lch Start data signal input/output terminal of the ATRAC interface
34	EXE	I/O	EXE signal input/output terminal of the ATRAC interface
35	MUTE	I/O	MUTE signal input/output terminal of the ATRAC interface
36	OSCO	O	45.1584MHz clock oscillation output
37	OSCI	I	45.1584MHz clock oscillation input
38	VSS	–	GND terminal
39	ATT	I/O	ATT signal input/output terminal of the ATRAC interface
40	F86	O	11.6msec timing signal output terminal of the ATRAC block
41	DOUT	O	Monitor/audio decode data signal output to the D/A converter (IC550)
42	ADIN	I	Recording data signal input from the D/A converter Not used this set (Fixed at “L”)
43	ABCK	O	Bit clock signal output to the A/D, D/A converter Not used this set (OPEN)
44	ALRCK	O	L/R clock signal output to the D/A converter (IC550)
45-47	SA2-SA0	O	Address signal output Not used this set (OPEN)

Pin No.	Pin Name	I/O	Description
48,49	A11,A10	O	Address signal output Not used this set (OPEN)
50	VSS	–	GND terminal
51	VDD	–	Power supply terminal (+3.3V)
52-55	A03-A00	O	Address signal output to the RAM (IC501)
56-60	A04-A08	O	Address signal output to the RAM (IC501)
61	XOE	O	Output enable control signal output to the RAM (IC501)
62	XCAS	O	Column address strobe signal output to the RAM (IC501)
63	VSS	–	GND terminal
64	XCS	O	Chip select signal output to the RAM Not used this set (OPEN)
65	A09	O	Address signal output to the RAM (IC501)
66	XRAS	O	Row address strobe signal output to the RAM (IC501)
67	XWE	O	Write enable control signal output to the RAM (IC501)
68,69	D1,D0	I/O	RAM (IC501) data bus
70,71	D2,D3	I/O	RAM (IC501) data bus
72-74	D4-D6	I/O	Data bus Not used this set (OPEN)
75	VSS	–	GND terminal
76	D7	I/O	Data bus Not used this set (OPEN)
77	ERR	I/O	Input /output terminal of the error (C2PO) data signal to the external RAM Not used this set (OPEN)
78	EXTC2R	I	External RAM selection signal input for the error data writing (When “H” : External RAM) (Fixed at “L”)
79	BUSY	O	BUSY signal output of the RAM access Not used this set (OPEN)
80	EMP	O	Empty or before the full of the ATRAC data (When DSC=ASC+1 : “H”)
81	FUL	O	Full or before the empty of the ATRAC data (When ASC=DSC+1 : “H”)
82	EQL	O	Empty of the ATRAC data (When DSC=ASC : “H”)
83	MDLK	O	Indicate the main/sub of the recording or playback data (When sub and linking : “H”, When the main : “L”)
84	CPSY	O	Interpolation sync signal output
85	CTMD0	O	DSC (Difference Signal Control) counter mode output
86	CTMD1	O	DSC (Difference Signal Control) counter mode output
87	SPO	O	System clock (512Fs=22.5792MHz) signal output to CXD2535BR (IC200) and D/A converter (IC550)
88	VSS	–	GND terminal
89	MDSY	O	Sync detection signal output of the main data Not used this set (OPEN)
90	LRCK	I	L/R clock (44.1kHz) signal input from CXD2535BR (IC200)
91	BCK	I	Bit clock (2.8224MHz) signal input from CXD2535BR (IC200)
92	C2PO	I	C2PO (indicate the error mode of the data) signal input from CXD2535BR (IC200) When playback : C2PO (“H”), When digital recording : D. IN-Vflag, When analog recording : “L”
93	DATA	I/O	When recording : Record audio data signal output (Not used this set) When playback : Playback audio data signal input from CXD2535BR (IC200)
94	DIDT	I	16-bit data input terminal for the digital audio in Not used this set (Fixed at “L”)
95	DODT	O	16-bit data output terminal for the digital audio out Not used this set (OPEN)
96	DIRCPB	O	Disc drive, Record or playback mode output of the EFM encoder/decoder Not used this set (OPEN)
97	MIN	I	Defect ON/OFF selection signal input from CXD2535BR (IC200)
98	SPOSL	I	IN/OUT selection input terminal of the pin 87 (“L” : IN, “H” : OUT)
99	MCKT1	O	Internal master clock signal output terminal of the RAM controller
100	VSS	–	GND terminal

MAIN BOARD IC600 CXP84340-022Q (SYSTEM CONTROL)

Pin No.	Pin Name	I/O	Function
1-5	TSTIN3-7	I	Test key output terminal of 4 × 8 matrix
6	M1	O	Elevator motor (M904) drive signal output (UP) *1
7	M1	O	Elevator motor (M904) drive signal output (DOWN) *1
8	M2	O	Loading motor (M903) drive signal output *2
9	M2	O	Loading motor (M903) drive signal output *2
10	MDMON	O	Power control output (Mechanism deck system) Power ON : "H"
11	LES	I	Detection signal input from the loading end sensor switch (S902)
12	SES	I	Detection signal input from the store end sensor switch (S903)
13	HOME	I	Detection signal input from the home position switch (S901) Home position : "L"
14	DCS1	I	Detection signal input from the disc1 switch (S611) No disc "L"
15	DCS2	I	Detection signal input from the disc2 switch (S612) No disc "L"
16	DCS3	I	Detection signal input from the disc3 switch (S613) No disc "L"
17	DCS4	I	Detection signal input from the disc4 switch (S614) No disc "L"
18	DCS5	I	Detection signal input from the disc5 switch (S615) No disc "L"
19	DCS6	I	Detection signal input from the disc6 switch (S616) No disc "L"
20	CH/SINGLE	I	Changer/single setting up terminal When used the changer : "H" (Fixed at "H")
21	ILLON	O	Lamp (PL620) drive signal outuput for illumination When lamp is ON : "H"
22-29	N.C.	O	Not used (OPEN)
30	RST	I	System reset signal input When reset : "L"
31	EXTAL	I	10MHz system clock signal input
32	XTAL	O	10MHz system clock signal output
33	VSS	–	GND terminal
34	TX	O	32.768kHz clock signal output for a clock
35	TEX	I	32.768kHz clock signal input for a clock
36	AVSS	–	GND terminal (Analog system)
37	AVREF	–	Reference voltage (+5V) input for the A/D converter
38	INIT	I	Initial reset signal input (Normally : "H")
39	TEMP	I	Temperature detection signal input
40	EHS	I	Disc hight position detection signal input
41	N.C.	O	Not used (OPEN)
42	EE-CS	O	Chip select signal output for a EEPROM Not used this set (OPEN)
43	EE-CKO	O	Serial clock signal output for a EEPROM Not used this set (OPEN)
44	EE-SIO	I/O	Data signal input/output Not used this set (OPEN)
45	MD-SO	O	Write data signal output to RF AMP (IC100), CXD2535BR (IC200) and CXD2536AR (IC500)
46	LNKOFF	O	LINK OFF signal output for serial communications Not used this set (OPEN)
47	UNIREQ	O	Request signal output for serial communications Not used this set (OPEN)
48	UNICKI	I	Clock signal (serial communications) input
49	UNISI	I	Data signal (serial communications) input
50	UNISO	O	Data signal (serial communications) output
51	MD-CKO	O	Serial clock signal output to RF AMP (IC100), CXD2535BR (IC200) and CXD2536AR (IC500)
52	MD-SI	I	Read data signal input from CXD2535BR (IC200) and CXD2536AR (IC500)
53	N.C.	O	Not used
54	SENS	I	Internal status (SENS) input from CXD2535BR (IC200) and CXD2536AR (IC500)
55	CC-XINT	I	Interruption stsatus input from CXD2536AR (IC500)

Pin No	Pin Name	I/O	Function
56	LIMIT-SW	I	Detection signal input from the limit switch (S400) When sled limit in : "L"
57	DOOR-SW	I	Detection signal input from the door open/close switch (S620) When open : "L"
58	MD-LAT	O	Serial latch signal output to RF AMP (IC100), CXD2535BR (IC200) and CXD2536AR (IC500)
59	MD-RST	O	Reset signal output to RF AMP (IC100), CXD2535BR (IC200) and CXD2536AR (IC500) When reset "L"
60	BU-IN	I	Battery detection signal input
61	BUS-ON	I	BUS-ON detection signal (serial communications) input
62	SQSY	I	Sub-code Q sync (SCOR) input from CXD2535BR (IC200) "L" every 13.3msec, Almost "H"
63	STR-SW	I	Detection signal input from the STOP switch (S600)
64	FOK	I	Focus OK signal input from CXD2435BR (IC200) "H" is input when the focus is applied
65	MD-ON	O	Power control signal output (Servo system) Power ON : "H"
66	EMPH-O	O	Deemphasis control signal output to the D/A converter (IC550) Deemphasis ON "L"
67	A-MUT	O	Audio mute signal output When mute : "H"
68	N.C.	O	Not used (OPEN)
69	TSTCKO	O	Clock signal output for test mode indication
70	TSTSO	O	Data signal output for test mode indication
71	TSTMOD	I	Test mode set up terminal Normally : "H" When test mode : "L"
72	VDD	-	Power supply terminal (+5V)
73	N.C.	-	Not used (Fixed at "H")
74	TSTOUT0	O	Test key (4X8 matrix) signal output terminal (OPEN)
75	TSTOUT1	O	Test key (4X8 matrix) signal output terminal (OPEN)
76	TSTOUT2	O	Test key (4X8 matrix) signal output terminal (OPEN)
77	TSTOUT3	O	Test key (4X8 matrix) signal output terminal (OPEN)
78	TSTIN0	I	Test key (4X8 matrix) signal input terminal (Fixed at "L")
79	TSTIN1	I	Test key (4X8 matrix) signal input terminal (Fixed at "L")
80	TSTIN2	I	Test key (4X8 matrix) signal input terminal (Fixed at "L")

***1 Elevator motor (M904) control**

Terminal \ Mode	UP	DOWN
M1 pin ⑥	"H"	"L"
M1 pin ⑦	"L"	"H"

***2 Loading motor (M903) control**

Terminal \ Mode	IN	OUT	Brake
M2 pin ⑧	"L"	"H"	"H"
M2 pin ⑨	"H"	"L"	"H"

SECTION 4

EXPLODED VIEWS

NOTE:

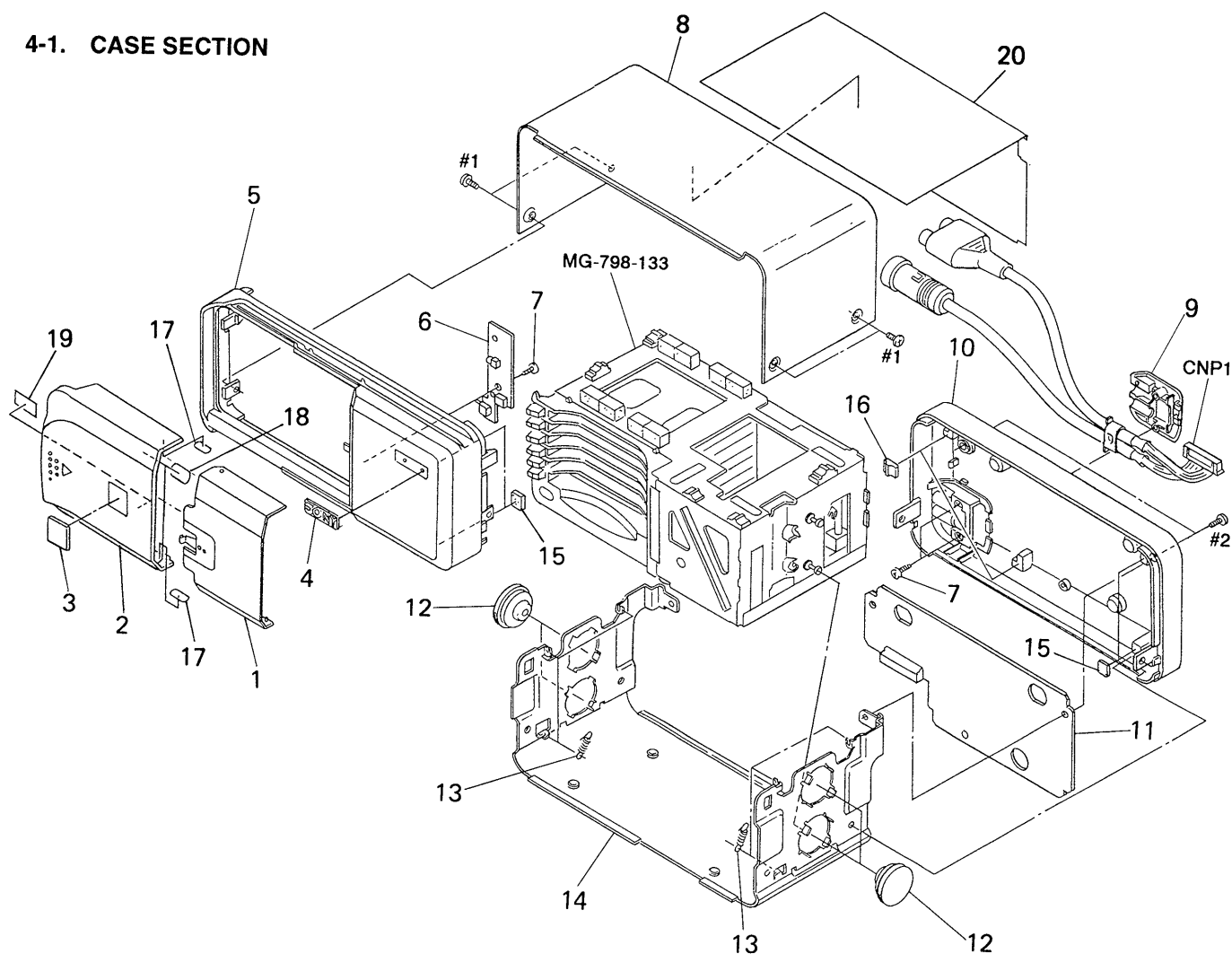
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

The components identified by mark Δ or dotted line with mark Δ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque Δ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

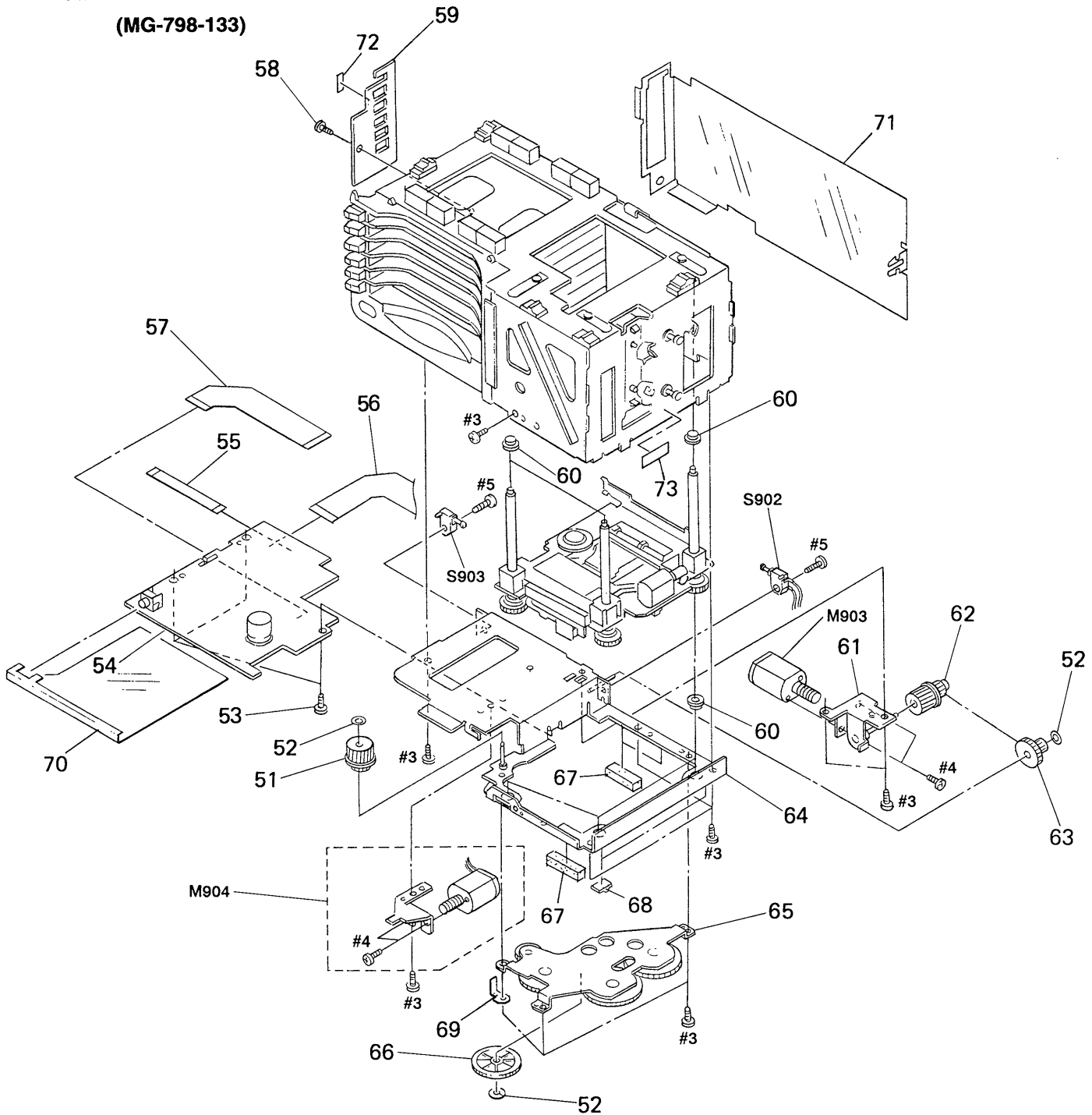
4-1. CASE SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	X-3371-273-1	DOOR (S) ASSY/EXP		12	3-930-176-01	DAMPER (798)	
2	3-930-168-11	DOOR (P)		13	3-930-177-01	SPRING (FL), TENSION	
3	3-930-179-11	EMBLEM (H13), MD		* 14	3-930-173-01	CASE (LOWER)	
4	4-969-961-01	EMBLEM (NO. 4), SONY		15	3-931-697-01	CUSHION (STOPPER)	
5	X-3371-224-1	PANEL (FRONT) ASSY (EXP)		16	3-348-750-01	CUSHION (DAMPER)	
* 6	1-658-886-11	LAMP BOARD		17	3-930-744-01	SPACER (DOOR)	
7	3-909-607-01	SCREW		18	3-933-740-01	SHEET (SLIDE)	
* 8	3-930-172-01	CASE (UPPER)		19	3-831-441-11	CUSHION, RATTLE ABSORBER	
9	3-930-175-11	COVER (CORD)		20	3-935-293-01	SHEET (RADIANT MD)	
10	X-3371-225-1	PANEL (REAR) ASSY (EXP)		CNP1	1-776-105-11	CORD (WITH CONNECTOR) (BUS CONTROL/RCA PIN JACK)	
* 11	A-3222-982-A	POWER BOARD, COMPLETE					

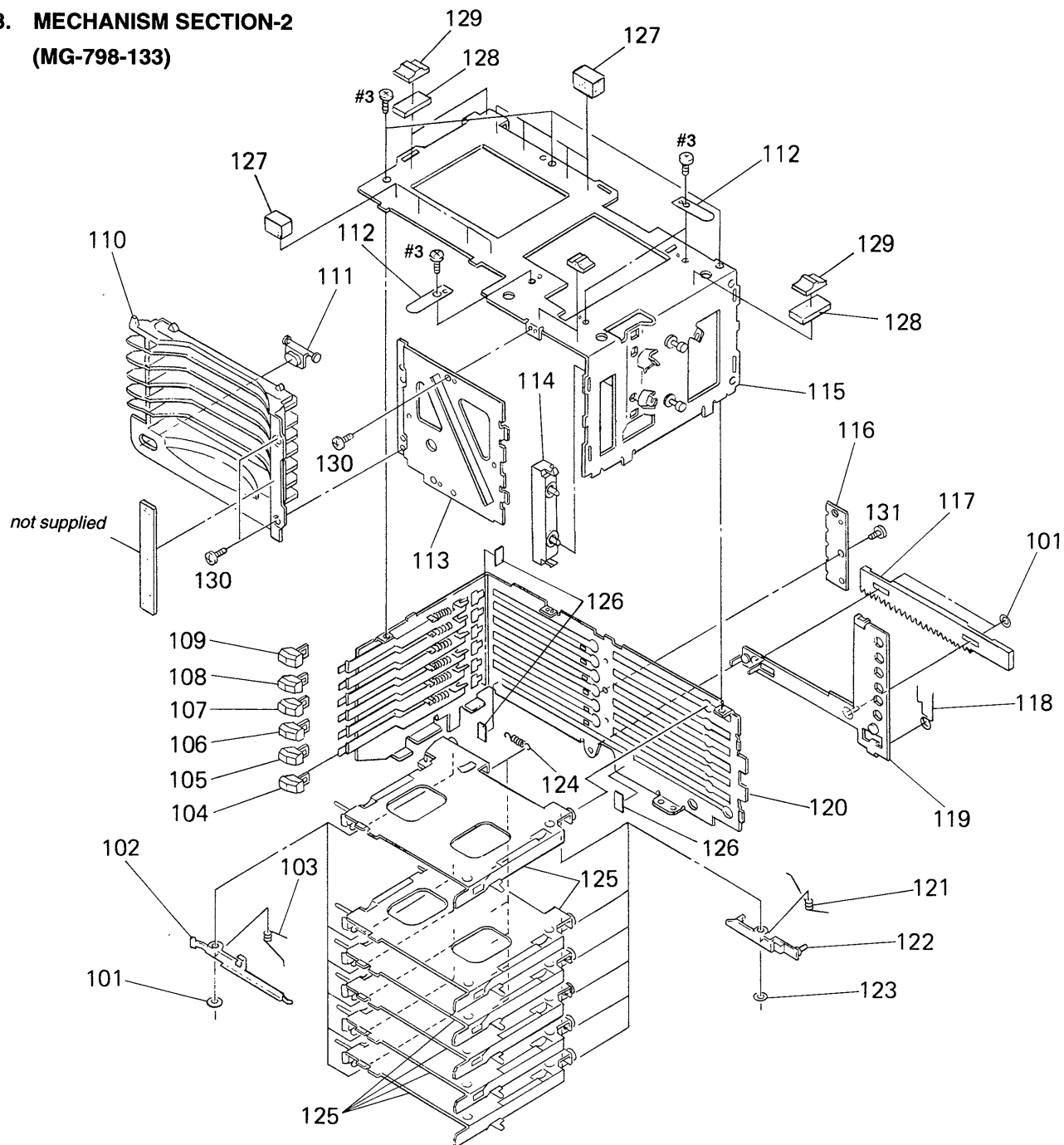
REVISED

4-2. MECHANISM SECTION-1
(MG-798-133)



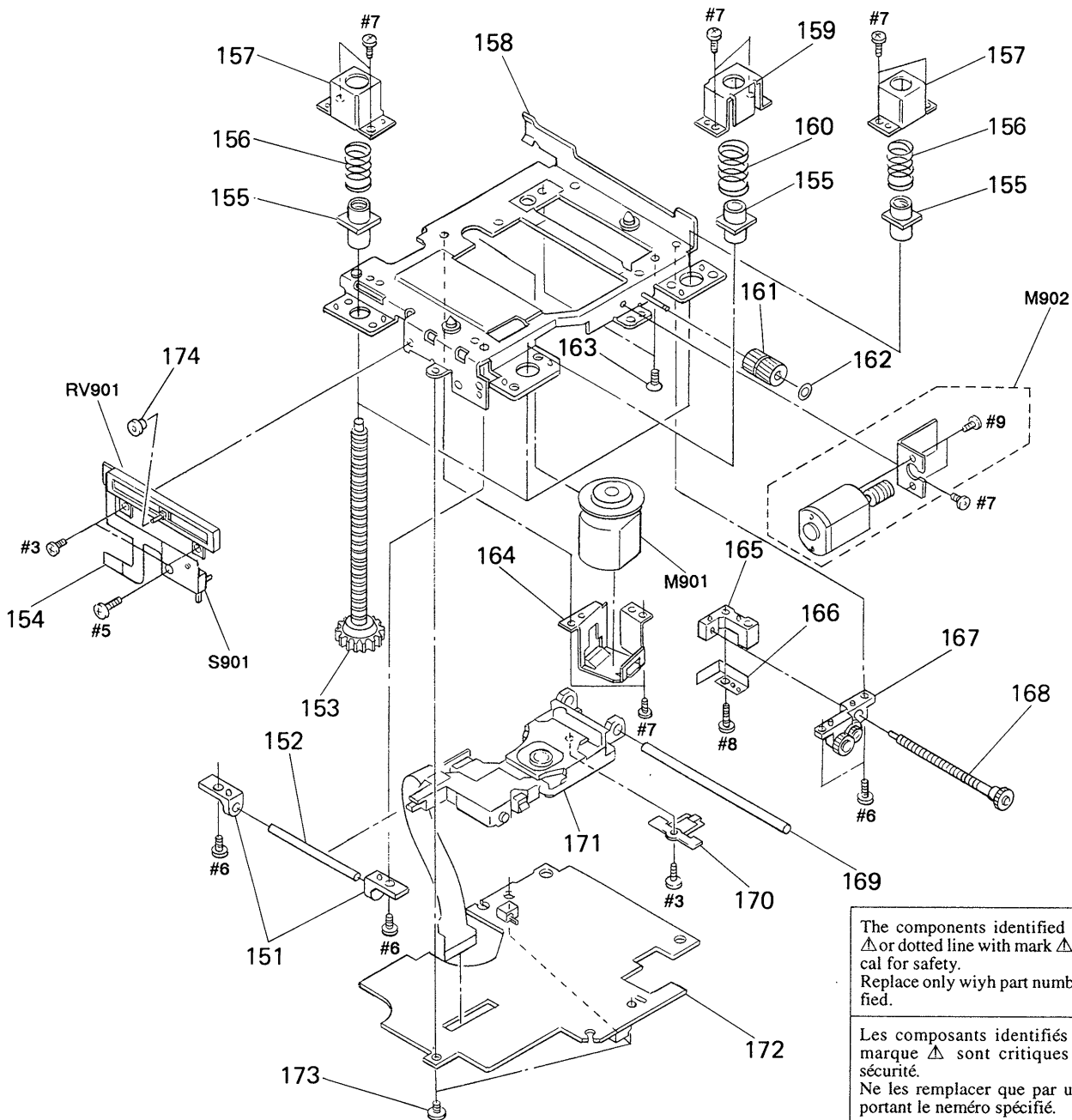
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	3-930-351-01	WHEEL (ELV), WORM		65	X-3371-211-1	CHASSIS (GEAR) ASSY	
52	3-377-719-11	WASHER, POLYETHYLENE		66	3-930-313-01	GEAR (ELVC)	
53	3-880-990-00	SCREW (1.7X3), FLAT, (+) SPECIAL		67	3-931-698-01	CUSHION (ROLL L)	
* 54	A-3222-981-A	MAIN BOARD, COMPLETE		68	3-348-750-01	CUSHION (DAMPER)	
55	1-776-474-11	CABLE, FLAT 7P		69	3-931-366-01	STOPPER, LEAD	
56	1-658-887-11	MAIN FLEXIBLE BOARD		* 70	3-931-149-01	SHEET (MAIN PC BOARD)	
57	1-658-881-11	SERVO FLEXIBLE BOARD		* 71	3-931-025-01	SHEET (MECHANICAL DECK)	
58	3-909-412-01	SCREW (+P) (1.7X2) (TYPE 3)		72	3-933-740-01	SHEET (SLIDE)	
59	A-3298-935-A	SENSOR BOARD, COMPLETE		73	3-831-441-11	CUSHION, RATTLE ABSORBER	
60	3-930-312-01	BEARING (ELV)		M903	X-3371-508-1	MOTOR ASSY (LOADING)	
61	X-3371-220-1	BRACKET (LD) ASSY		M904	A-3291-505-A	ELV MOTOR BLOCK ASSY (ELEVATOR)	
62	3-930-365-01	WHEEL (LD), WORM		S902	1-570-771-11	SWITCH (LES)	
63	3-930-317-01	GEAR (LD)		S903	1-570-771-21	SWITCH (SES)	
* 64	X-3371-218-1	CHASSIS (BASE) ASSY					

4-3. MECHANISM SECTION-2 (MG-798-133)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	3-377-719-11	WASHER, POLYETHYLENE		117	3-930-366-01	RACK (LOADING)	
102	3-930-354-01	LEVER, DISK EJECT		118	3-930-360-01	SPRING (LIMITER), TORSION	
103	3-930-350-01	SPRING (EJ), TORSION		* 119	X-3371-221-1	SLIDER ASSY, LOADING	
104	3-930-318-51	BUTTON (EJECT)		120	X-3371-210-1	CHASSIS (REAR) ASSY	
105	3-930-318-41	BUTTON (EJECT)		121	3-930-349-01	SPRING (LOCK), TORSION	
106	3-930-318-31	BUTTON (EJECT)		122	X-3371-219-1	PLATE (HOLDER) ASSY, LOCK	
107	3-930-318-21	BUTTON (EJECT)		123	3-338-645-31	WASHER (0.8-2.5)	
108	3-930-318-11	BUTTON (EJECT)		124	3-930-352-01	SPRING (D LOCK), TENSION	
109	3-930-318-01	BUTTON (EJECT)		125	X-3371-216-1	HOLDER (CADDIE) ASSY	
110	3-930-314-01	ESCUTCHEON		* 126	3-317-054-01	SPACER, E	
111	3-930-319-01	BUTTON (STOP)		127	3-931-699-01	CUSHION (ROLL H)	
112	3-930-311-01	RETAINER (ELV)		128	9-911-840-XX	CUSHION	
* 113	3-930-320-01	CHASSIS (FRONT)		129	3-348-750-01	CUSHION (DAMPER)	
* 114	3-930-316-01	GUIDE (HOLDER)		130	3-317-552-71	SCREW (M1.7)	
* 115	X-3371-209-1	CHASSIS (TOP) ASSY		131	3-891-132-00	SCREW (M1.7x2.0), SPECIAL	
* 116	3-930-321-01	PLATE, HOLDER STOP					

4-4. MECHANISM SECTION-3 (MG-798-133)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
151	3-930-338-01	HOLDER (OP GUIDE B)		165	3-930-336-01	HOLDER (SLB)	
152	3-930-332-01	GUIDE (OPB)		166	3-930-335-01	DETENT, SL	
153	X-3371-212-1	SCREW (ELV) ASSY, FEED		167	X-3371-213-1	HOLDER (SLA) ASSY	
154	1-658-880-11	EHS FLEXIBLE BOARD		168	X-3371-214-1	SCREW (SL) ASSY, FEED	
155	3-930-333-01	SLEEVE (ELV)		169	3-930-331-01	GUIDE (OPA)	
156	3-930-334-01	SPRING (ELV), COMPRESSION		170	3-930-337-01	SPRING (SL OUTSERT), FEED	
157	3-930-345-01	PLATE (B), ELV LIMITER		Δ 171	8-583-023-11	OPTICAL PICK UP KMS-193B/J	
* 158	X-3371-215-1	CHASSIS (OP) ASSY		* 172	A-3222-980-A	SERVO BOARD, COMPLETE	
159	3-930-344-01	PLATE (A), ELV LIMITER		173	3-932-755-01	SCREW (M1.7X2.2)	
160	3-930-711-01	SPRING (ELV2), COMPRESSION		174	3-930-310-01	COLLAR (EHS)	
161	3-930-339-01	WHEEL (SL), WORM		M901	A-3291-507-A	SP MOTOR BLOCK ASSY (SPINDLE)	
162	3-338-645-31	WASHER (0.8-2.5)		M902	A-3291-508-A	SL MOTOR BLOCK ASSY (SLED)	
163	3-930-343-01	SCREW (+K) (1.7X3.5) (TYPE3)		RV901	1-223-817-11	RES, VAR, SLIDE 10K (ELEVATOR HIGHT SENSOR)	
164	3-930-342-01	RETAINER (SP)		S901	1-570-771-21	SWITCH (HOME POSITION DETECT)	

SECTION 5

ELECTRICAL PARTS LIST

MAIN

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms.
METAL: Metal-film resistor.
METAL OXIDE: Metal oxide-film resistor.
F: nonflammable

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
In each case, u: μ , for example:
uA...: μ A... uPA...: μ PA...
uPB...: μ PB... uPC...: μ PC... uPD...: μ PD...
- CAPACITORS
uF: μ F
- COILS
uH: μ H

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
*	A-3222-981-A	MAIN BOARD, COMPLETE *****		C610	1-107-826-11	CERAMIC CHIP 0.1uF	10% 16V
		< CAPACITOR >		C611	1-165-128-11	CERAMIC CHIP 0.22uF	16V
C500	1-165-128-11	CERAMIC CHIP 0.22uF	16V	C620	1-107-826-11	CERAMIC CHIP 0.1uF	10% 16V
C501	1-128-361-11	ELECT CHIP 470uF	20% 10V	C621	1-107-826-11	CERAMIC CHIP 0.1uF	10% 16V
C502	1-162-913-11	CERAMIC CHIP 8PF	0.5PF 50V	C650	1-165-128-11	CERAMIC CHIP 0.22uF	16V
C503	1-162-913-11	CERAMIC CHIP 8PF	0.5PF 50V	C651	1-165-128-11	CERAMIC CHIP 0.22uF	16V
C504	1-162-910-11	CERAMIC CHIP 5PF	0.25PF 50V	C652	1-165-128-11	CERAMIC CHIP 0.22uF	16V
				C653	1-165-128-11	CERAMIC CHIP 0.22uF	16V
C505	1-165-128-11	CERAMIC CHIP 0.22uF	16V	C700	1-107-826-11	CERAMIC CHIP 0.1uF	10% 16V
C506	1-135-259-11	TANTAL. CHIP 10uF	20% 6.3V	C701	1-107-826-11	CERAMIC CHIP 0.1uF	10% 16V
C507	1-107-826-11	CERAMIC CHIP 0.1uF	10% 16V			< CONNECTOR >	
C508	1-107-826-11	CERAMIC CHIP 0.1uF	10% 16V	CN500	1-573-370-21	CONNECTOR, FFC/FPC 30P	
C509	1-165-128-11	CERAMIC CHIP 0.22uF	16V	* CN600	1-573-939-11	CONNECTOR, FFC/FPC (ZIF) 30P	
				CN601	1-573-916-11	CONNECTOR, FFC/FPC (ZIF) 7P	
C510	1-107-826-11	CERAMIC CHIP 0.1uF	10% 16V	CN602	1-580-055-21	PIN, CONNECTOR 2P	
C511	1-162-927-11	CERAMIC CHIP 100PF	5% 50V	CN603	1-580-055-21	PIN, CONNECTOR 2P	
C512	1-165-128-11	CERAMIC CHIP 0.22uF	16V	* CN604	1-580-056-21	PIN, CONNECTOR 3P	
C513	1-162-927-11	CERAMIC CHIP 100PF	5% 50V	CN700	1-580-055-21	PIN, CONNECTOR 2P	
C520	1-162-927-11	CERAMIC CHIP 100PF	5% 50V	CN701	1-580-055-21	PIN, CONNECTOR 2P	
						< DIODE >	
C521	1-135-259-11	TANTAL. CHIP 10uF	20% 6.3V	D502	8-719-421-36	DIODE MA8036-L	
C550	1-104-852-11	TANTAL. CHIP 22uF	20% 10V	D560	8-719-988-62	DIODE 1SS355	
C551	1-107-826-11	CERAMIC CHIP 0.1uF	10% 16V	D561	8-719-988-62	DIODE 1SS355	
C553	1-164-357-11	CERAMIC CHIP 1000PF	5% 50V	D562	1-216-295-00	CONDUCTOR, CHIP (2012)	
C554	1-165-128-11	CERAMIC CHIP 0.22uF	16V	D600	8-719-422-64	DIODE MA8062-M	
						< CHIP CONDUCTOR, FERRITE BEAD >	
C557	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V	FB501	1-216-295-00	CONDUCTOR, CHIP (2012)	
C560	1-135-259-11	TANTAL. CHIP 10uF	20% 6.3V	FB502	1-216-295-00	CONDUCTOR, CHIP (2012)	
C600	1-104-852-11	TANTAL. CHIP 22uF	20% 10V	FB503	1-216-295-00	CONDUCTOR, CHIP (2012)	
C601	1-165-128-11	CERAMIC CHIP 0.22uF	16V	FB504	1-216-295-00	CONDUCTOR, CHIP (2012)	
C602	1-164-489-11	CERAMIC CHIP 0.22uF	10% 16V	FB510	1-414-235-11	INDUCTOR, FERRITE BEAD	
C603	1-107-826-11	CERAMIC CHIP 0.1uF	10% 16V	FB650	1-500-235-21	BEAD, FERRITE (CHIP)	
C604	1-107-826-11	CERAMIC CHIP 0.1uF	10% 16V	FB651	1-500-235-21	BEAD, FERRITE (CHIP)	
C605	1-107-826-11	CERAMIC CHIP 0.1uF	10% 16V	FB652	1-500-239-21	BEAD, FERRITE (CHIP)	
C607	1-162-927-11	CERAMIC CHIP 100PF	5% 50V				
C608	1-162-917-11	CERAMIC CHIP 15PF	5% 50V				
C609	1-162-917-11	CERAMIC CHIP 15PF	5% 50V				

MAIN

Ref. No.	Part No.	Description	Remark
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< IC >

IC500	8-752-375-50	IC	CXD2536AR
IC501	8-759-341-28	IC	HM51W4400BLTT-7
IC550	8-759-362-29	IC	CS4330E-CSR
IC600	8-752-866-71	IC	CXP84340-022Q
IC601	8-759-363-81	IC	XC61AN4002PR
IC602	8-759-238-47	IC	TC74HCT7007AF (EL)
IC700	8-759-823-87	IC	LB1638M
IC701	8-759-823-87	IC	LB1638M

< COIL >

L500	1-412-058-11	INDUCTOR CHIP	10uH
L501	1-412-006-31	INDUCTOR CHIP	10uH
L502	1-412-058-11	INDUCTOR CHIP	10uH
L600	1-412-058-11	INDUCTOR CHIP	10uH

< FILTER >

NF650	1-239-466-21	FILTER, EMI
NF651	1-239-581-21	FILTER, EMI

< TRANSISTOR >

Q500	8-729-020-67	TRANSISTOR	XN1A312-TX
Q501	8-729-920-21	TRANSISTOR	DTC314TKH04
Q560	8-729-920-21	TRANSISTOR	DTC314TKH04
Q561	8-729-421-22	TRANSISTOR	UN2211
Q600	8-729-904-60	TRANSISTOR	DTB1132K

Q601	8-729-421-22	TRANSISTOR	UN2211
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< RESISTOR >

R501	1-216-815-11	METAL CHIP	330	5%	1/16W
R502	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R503	1-216-809-11	METAL CHIP	100	5%	1/16W
R504	1-216-809-11	METAL CHIP	100	5%	1/16W
R505	1-218-733-11	METAL CHIP	51K	0.50%	1/16W

R506	1-218-730-11	METAL CHIP	39K	0.5%	1/16W
R520	1-216-811-11	METAL CHIP	150	5%	1/16W
R550	1-216-797-11	METAL CHIP	10	5%	1/16W
R551	1-216-809-11	METAL CHIP	100	5%	1/16W
R552	1-216-809-11	METAL CHIP	100	5%	1/16W

R553	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R560	1-218-692-11	METAL CHIP	1K	0.50%	1/16W
R561	1-218-716-11	METAL CHIP	10K	0.50%	1/16W
R600	1-216-841-11	METAL CHIP	47K	5%	1/16W
R601	1-216-845-11	METAL CHIP	100K	5%	1/16W

R602	1-216-845-11	METAL CHIP	100K	5%	1/16W
R603	1-216-845-11	METAL CHIP	100K	5%	1/16W
R604	1-216-864-11	METAL CHIP	0	5%	1/16W
R605	1-216-845-11	METAL CHIP	100K	5%	1/16W

Ref. No.	Part No.	Description	Remark
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R607	1-218-708-11	METAL CHIP	4.7K 0.50% 1/16W
R608	1-216-821-11	METAL CHIP	1K 5% 1/16W
R609	1-216-825-11	METAL CHIP	2.2K 5% 1/16W
R610	1-216-821-11	METAL CHIP	1K 5% 1/16W
R611	1-216-825-11	METAL CHIP	2.2K 5% 1/16W

R612	1-216-845-11	METAL CHIP	100K 5% 1/16W
R613	1-216-821-11	METAL CHIP	1K 5% 1/16W
R614	1-216-825-11	METAL CHIP	2.2K 5% 1/16W
R615	1-216-821-11	METAL CHIP	1K 5% 1/16W
R616	1-216-825-11	METAL CHIP	2.2K 5% 1/16W

R617	1-216-845-11	METAL CHIP	100K 5% 1/16W
R618	1-216-845-11	METAL CHIP	100K 5% 1/16W
R619	1-216-833-11	METAL CHIP	10K 5% 1/16W
R622	1-216-809-11	METAL CHIP	100 5% 1/16W
R623	1-216-821-11	METAL CHIP	1K 5% 1/16W

R624	1-216-821-11	METAL CHIP	1K 5% 1/16W
R625	1-216-845-11	METAL CHIP	100K 5% 1/16W
R626	1-216-845-11	METAL CHIP	100K 5% 1/16W
R627	1-216-821-11	METAL CHIP	1K 5% 1/16W
R628	1-216-845-11	METAL CHIP	100K 5% 1/16W

R629	1-216-845-11	METAL CHIP	100K 5% 1/16W
R630	1-216-841-11	METAL CHIP	47K 5% 1/16W
R631	1-216-821-11	METAL CHIP	1K 5% 1/16W
R632	1-216-821-11	METAL CHIP	1K 5% 1/16W
R633	1-216-821-11	METAL CHIP	1K 5% 1/16W

< CONPOSITION CIRCUIT BLOCK >

RB600	1-239-517-11	RESISTOR, NETWORK (1608)	100Kx4
RB601	1-239-517-11	RESISTOR, NETWORK (1608)	100Kx4
RB602	1-239-514-11	RESISTOR, NETWORK (1608)	100x4
RB603	1-239-516-11	RESISTOR, NETWORK (1608)	1Kx4
RB604	1-239-516-11	RESISTOR, NETWORK (1608)	1Kx4

RB605	1-239-517-11	RESISTOR, NETWORK (1608)	100Kx4
RB606	1-239-516-11	RESISTOR, NETWORK (1608)	1Kx4
RB607	1-239-516-11	RESISTOR, NETWORK (1608)	1Kx4
RB609	1-239-516-11	RESISTOR, NETWORK (1608)	1Kx4

< SWITCH >

S600	1-571-914-21	SWITCH, KEY BOARD (STOP)
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< THERMISTOR >

TH600	1-810-421-11	THERMISTOR NTH5G36B103K01TE
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< VIBRATOR >

X500	1-760-168-11	VIBRATOR, CRYSTAL (45.1584MHz)
X600	1-760-365-11	VIBRATOR, CERAMIC (10MHz)
X601	1-579-886-21	VIBRATOR, CRYSTAL (32.768KHz)

Ref. No.	Part No.	Description	Remark
*	1-658-886-11	LAMP BOARD *****	
		< CONNECTOR >	
* CN620	1-580-056-21	PIN, CONNECTOR 3P	
		< PILOT LAMP >	
PL620	1-517-492-11	LAMP, PILOT (For ILLUMINATION)	
		< RESISTOR >	
R620	1-216-298-00	METAL CHIP 2.2 5% 1/10W	
		< SWITCH >	
S620	1-692-532-21	SWITCH, PUSH (1 KEY) (DOOR OPEN/CLOSE DETECT)	

*	A-3222-982-A	POWER BOARD, COMPLETE *****	
		< CAPACITOR >	
C800	1-110-456-11	SOLID CHIP 47uF 20% 16V	
C801	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C803	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C805	1-110-450-11	SOLID CHIP 100uF 20% 6.3V	
C810	1-110-457-11	SOLID CHIP 3.3uF 20% 25V	
C811	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C812	1-110-474-11	SOLID CHIP 10uF 20% 50V	
C813	1-110-457-11	SOLID CHIP 3.3uF 20% 25V	
C814	1-163-125-11	CERAMIC CHIP 220PF 5% 50V	
C815	1-163-125-11	CERAMIC CHIP 220PF 5% 50V	
C820	1-110-457-11	SOLID CHIP 3.3uF 20% 25V	
C821	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C822	1-110-474-11	SOLID CHIP 10uF 20% 50V	
C823	1-110-457-11	SOLID CHIP 3.3uF 20% 25V	
C824	1-163-125-11	CERAMIC CHIP 220PF 5% 50V	
C825	1-163-125-11	CERAMIC CHIP 220PF 5% 50V	
C900	1-163-017-00	CERAMIC CHIP 0.0047uF 5% 50V	
C901	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C902	1-163-275-11	CERAMIC CHIP 0.001uF 5% 50V	
C903	1-110-456-11	SOLID CHIP 47uF 20% 16V	
C904	1-164-505-11	CERAMIC CHIP 2.2uF 16V	
C909	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C910	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C911	1-125-710-11	DOUBLE LAYER 0.1F 0	
C920	1-164-346-11	CERAMIC CHIP 1uF 16V	
C931	1-110-446-11	SOLID CHIP 10uF 20% 6.3V	

Ref. No.	Part No.	Description	Remark
C932	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C940	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C941	1-110-474-11	SOLID CHIP 10uF 20% 50V	
C942	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C950	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C951	1-163-275-11	CERAMIC CHIP 0.001uF 5% 50V	
C952	1-163-263-11	CERAMIC CHIP 330PF 5% 50V	
C953	1-163-275-11	CERAMIC CHIP 0.001uF 5% 50V	
C954	1-163-263-11	CERAMIC CHIP 330PF 5% 50V	
C955	1-110-456-11	SOLID CHIP 47uF 20% 16V	
C956	1-128-590-11	ELECT CHIP 100uF 20% 6.3V	
C957	1-128-590-11	ELECT CHIP 100uF 20% 6.3V	
C958	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C959	1-110-447-11	SOLID CHIP 22uF 20% 6.3V	
C960	1-128-590-11	ELECT CHIP 100uF 20% 6.3V	
C961	1-128-590-11	ELECT CHIP 100uF 20% 6.3V	
C962	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C963	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C970	1-163-275-11	CERAMIC CHIP 0.001uF 5% 50V	
		< CONNECTOR >	
* CN800	1-573-939-11	CONNECTOR, FFC/FPC (ZIF) 30P	
CN900	1-764-585-11	PIN, CONNECTOR (PC BOARD) 12P	
		< DIODE >	
D900	8-719-422-64	DIODE MA8062-M	
D901	8-719-422-64	DIODE MA8062-M	
D902	8-719-975-40	DIODE RB411D-T146	
D910	8-719-977-12	DIODE DTZ6.8B	
D911	8-719-400-20	DIODE MA152WA	
D912	8-719-988-62	DIODE 1SS355	
D920	8-719-422-64	DIODE MA8062-M	
D921	8-719-988-62	DIODE 1SS355	
D930	8-719-422-16	DIODE MA8039-L-TX	
D940	8-719-422-97	DIODE MA8091-M	
D950	8-719-975-33	DIODE RB110C	
D951	8-719-422-16	DIODE MA8039-L-TX	
D952	8-719-975-33	DIODE RB110C	
		< CHIP CONDUCTOR, FERRITE BEAD >	
FB800	1-216-295-00	CONDUCTOR, CHIP (2012)	
FB810	1-500-239-21	BEAD, FERRITE (CHIP)	
FB820	1-500-239-21	BEAD, FERRITE (CHIP)	
FB901	1-216-295-00	CONDUCTOR, CHIP (2012)	
		< IC >	
IC800	8-759-711-82	IC NJM4580E	
IC900	8-759-284-87	IC MM1284XFFE	
IC950	8-759-370-13	IC TL1451ACDB-E20	

REVISED

POWER SENSOR

Ref. No. Part No. Description Remark

< CHIP CONDUCTOR >

JC901 1-216-295-00 CONDUCTOR, CHIP (2012)
JC931 1-216-295-00 CONDUCTOR, CHIP (2012)
JC941 1-216-295-00 CONDUCTOR, CHIP (2012)
JC951 1-216-295-00 CONDUCTOR, CHIP (2012)

< COIL >

L950 1-409-640-21 COIL, CHIP CHOKE 10uH
L951 1-403-584-11 COIL, CHIP CHOKE 33uH
L952 1-409-640-21 COIL, CHIP CHOKE 10uH
L953 1-403-584-11 COIL, CHIP CHOKE 33uH
L954 1-409-640-21 COIL, CHIP CHOKE 10uH

< FILTER >

NF900 1-239-581-21 FILTER, EMI

< IC LINK >

PS900 1-533-397-11 LINK, CHIP IC

< TRANSISTOR >

Q800 8-729-424-12 TRANSISTOR UN2112
Q810 8-729-920-21 TRANSISTOR DTC314TKH04
Q820 8-729-920-21 TRANSISTOR DTC314TKH04
Q910 8-729-920-85 TRANSISTOR 2SD1664-QR
Q911 8-729-422-27 TRANSISTOR 2SD601A-Q

Q920 8-729-422-27 TRANSISTOR 2SD601A-Q
Q921 8-729-424-12 TRANSISTOR UN2112
Q930 8-729-020-67 TRANSISTOR XN1A312-TX
Q931 8-729-920-85 TRANSISTOR 2SD1664-QR
Q940 8-729-020-67 TRANSISTOR XN1A312-TX

Q941 8-729-920-85 TRANSISTOR 2SD1664-QR
Q950 8-729-106-60 TRANSISTOR 2SB1115A
Q951 8-729-424-59 TRANSISTOR UN2212
Q952 8-729-822-84 TRANSISTOR 2SB1202FAST
Q953 8-729-920-85 TRANSISTOR 2SD1664-QR

Q954 8-729-106-60 TRANSISTOR 2SB1115A
Q955 8-729-020-67 TRANSISTOR XN1A312-TX

< RESISTOR >

R800 1-216-057-00 METAL CHIP 2.2K 5% 1/10W
R801 1-216-057-00 METAL CHIP 2.2K 5% 1/10W
R811 1-208-561-11 METAL GLAZE 27K 2% 1/8W
R812 1-216-238-00 METAL GLAZE 47K 2% 1/8W
R813 1-208-561-11 METAL GLAZE 27K 2% 1/8W

R814 1-216-238-00 METAL GLAZE 47K 2% 1/8W
R815 1-216-182-00 METAL GLAZE 220 2% 1/8W
R816 1-216-699-11 METAL CHIP 100K 0.5% 1/10W

Ref. No. Part No. Description Remark

R821 1-208-561-11 METAL GLAZE 27K 2% 1/8W
R822 1-216-238-00 METAL GLAZE 47K 2% 1/8W

R823 1-208-561-11 METAL GLAZE 27K 2% 1/8W
R824 1-216-238-00 METAL GLAZE 47K 2% 1/8W
R825 1-216-182-00 METAL GLAZE 220 2% 1/8W
R826 1-216-699-11 METAL CHIP 100K 0.5% 1/10W
R900 1-216-089-00 METAL GLAZE 47K 5% 1/10W

R910 1-216-081-00 METAL CHIP 22K 5% 1/10W
R911 1-216-049-00 METAL GLAZE 1K 5% 1/10W
R920 1-216-089-00 METAL GLAZE 47K 5% 1/10W
R921 1-216-085-00 METAL CHIP 33K 5% 1/10W
R922 1-216-097-00 METAL GLAZE 100K 5% 1/10W

R930 1-216-057-00 METAL CHIP 2.2K 5% 1/10W
R931 1-216-057-00 METAL CHIP 2.2K 5% 1/10W
R940 1-216-049-00 METAL GLAZE 1K 5% 1/10W
R950 1-216-073-00 METAL CHIP 10K 5% 1/10W
R951 1-216-065-00 METAL CHIP 4.7K 5% 1/10W

R952 1-216-065-00 METAL CHIP 4.7K 5% 1/10W
R953 1-216-067-00 METAL CHIP 5.6K 5% 1/10W
R954 1-216-077-00 METAL CHIP 15K 5% 1/10W
R955 1-216-077-00 METAL CHIP 15K 5% 1/10W
R956 1-216-085-00 METAL CHIP 33K 5% 1/10W

R957 1-216-085-00 METAL CHIP 33K 5% 1/10W
R958 1-216-085-00 METAL CHIP 33K 5% 1/10W
R959 1-216-085-00 METAL CHIP 33K 5% 1/10W
R960 1-216-025-00 METAL GLAZE 100 5% 1/10W
R961 1-216-045-00 METAL CHIP 680 5% 1/10W

R962 1-216-045-00 METAL CHIP 680 5% 1/10W
R963 1-208-806-11 METAL CHIP 10K 0.50% 1/10W
R964 1-216-663-11 METAL CHIP 3.3K 0.5% 1/10W
R965 1-216-025-00 METAL GLAZE 100 5% 1/10W
R966 1-216-025-00 METAL GLAZE 100 5% 1/10W

R967 1-216-045-00 METAL CHIP 680 5% 1/10W
R968 1-216-045-00 METAL CHIP 680 5% 1/10W
R969 1-208-806-11 METAL CHIP 10K 0.50% 1/10W
R970 1-216-663-11 METAL CHIP 3.3K 0.5% 1/10W

A-3298-935-A SENSOR BOARD, COMPLETE

< CONNECTOR >

CN610 not supplied

< SWITCH >

S611
S612
S613 not supplied
S614

REVISED

SENSOR

SERVO

Ref. No.	Part No.	Description	Remark
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S615

S616

not supplied

* A-3222-980-A SERVO BOARD, COMPLETE

< CAPACITOR >

C102	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C103	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C104	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C105	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C106	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C107	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C108	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C111	1-104-852-11	TANTAL. CHIP	22uF	20%	6.3V
C113	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C114	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C115	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C117	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C118	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C119	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C120	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C123	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C200	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C202	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C204	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C205	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C206	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C207	1-162-979-11	CERAMIC CHIP	0.0027uF	10%	50V
C208	1-162-587-11	CERAMIC CHIP	0.039uF	10%	25V
C209	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C210	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C211	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C301	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C302	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C303	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C304	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C305	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C306	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C307	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V

< CONNECTOR >

CN100	1-573-931-11	CONNECTOR, FFC/FPC (ZIF) 22P
CN200	1-573-370-21	CONNECTOR, FFC/FPC 30P
CN301	1-580-055-21	PIN, CONNECTOR 2P
CN400	1-573-346-21	CONNECTOR, FFC/FPC 6P

Ref. No.	Part No.	Description	Remark
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< DIODE >

D300	8-719-988-62	DIODE	1SS355
D301	8-719-988-62	DIODE	1SS355

< IC >

IC100	8-752-072-68	IC	CXA1981AR
IC200	8-752-375-82	IC	CXD2535BR-1
IC201	8-759-031-84	IC	SC7S04F
IC300	8-759-179-60	IC	MPC17A38VMEL

< COIL >

L100	1-412-058-11	INDUCTOR CHIP	10uH
L200	1-412-058-11	INDUCTOR CHIP	10uH
L300	1-412-039-51	INDUCTOR CHIP	100uH
L301	1-412-039-51	INDUCTOR CHIP	100uH
L302	1-412-039-51	INDUCTOR CHIP	100uH
L303	1-412-039-51	INDUCTOR CHIP	100uH
L304	1-412-039-51	INDUCTOR CHIP	100uH

< TRANSISTOR >

Q100	8-729-216-22	TRANSISTOR	2SA1162-G
Q200	8-729-422-27	TRANSISTOR	2SD601A-Q

< RESISTOR >

R100	1-216-841-11	METAL CHIP	47K	5%	1/16W
R101	1-216-308-00	METAL CHIP	4.7	5%	1/10W
R102	1-216-811-11	METAL CHIP	150	5%	1/16W
R103	1-216-853-11	METAL CHIP	470K	5%	1/16W
R104	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R106	1-216-853-11	METAL CHIP	470K	5%	1/16W
R107	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R108	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R109	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R110	1-216-835-11	METAL CHIP	15K	5%	1/16W
R111	1-216-841-11	METAL CHIP	47K	5%	1/16W
R201	1-216-809-11	METAL CHIP	100	5%	1/16W
R202	1-216-809-11	METAL CHIP	100	5%	1/16W
R203	1-216-809-11	METAL CHIP	100	5%	1/16W
R207	1-216-833-11	METAL CHIP	10K	5%	1/16W
R208	1-216-845-11	METAL CHIP	100K	5%	1/16W
R209	1-216-857-11	METAL CHIP	1M	5%	1/16W
R210	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R211	1-218-270-11	METAL GLAZE	1.1K	5%	1/16W
R212	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R221	1-216-853-11	METAL CHIP	470K	5%	1/16W
R222	1-216-819-11	METAL CHIP	680	5%	1/16W
R223	1-216-821-11	METAL CHIP	1K	5%	1/16W

SERVO

Ref. No.	Part No.	Description	Remark		
R224	1-216-821-11	METAL CHIP	1K	5%	1/16W
< COMPOSITION CIRCUIT BLOCK >					
RB201	1-239-514-11	RESISTOR, NETWORK (1608)	100x4		
RB202	1-239-514-11	RESISTOR, NETWORK (1608)	100x4		
RB203	1-239-514-11	RESISTOR, NETWORK (1608)	100x4		
< SWITCH >					
S400	1-692-532-21	SWITCH, PUSH (1 KEY) (LIMIT DETECT)			

MISCELLANEOUS					

55	1-776-474-11	CABLE, FLAT 7P			
56	1-658-887-11	MAIN FLEXIBLE BOARD			
57	1-658-881-11	SERVO FLEXIBLE BOARD			
154	1-658-880-11	EHS FLEXIBLE BOARD			
171	8-583-023-11	OPTICAL PICK UP KMS-193B/J			
CNP1	1-776-105-11	CORD (WITH CONNECTOR) (BUS CONTROL/ RCA PIN JACK)			
M901	A-3291-507-A	SP MOTOR BLOCK ASSY (SPINDLE)			
M902	A-3291-508-A	SL MOTOR BLOCK ASSY (SLED)			
M903	X-3371-508-1	MOTOR ASSY (LOADING)			
M904	A-3291-505-A	ELV MOTOR BLOCK ASSY (ELEVATOR)			
RV901	1-223-817-11	RES, VAR, SLIDE 10K (ELEVATOR HIGHT SENSOR)			
S901	1-570-771-21	SWITCH (HOME POSITION DETECT)			
S902	1-570-771-11	SWITCH (LES)			
S903	1-570-771-21	SWITCH (SES)			

ACCESSORIES & PACKING MATERIALS					

3-810-261-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, GERMAN, ITALIAN) (AEP, UK, German)				
3-810-261-21	MANUAL, INSTRUCTION (DUTCH, SWEDISH, PORTUGUESE, SPANISH) (AEP, U				
3-810-261-31	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, CHINESE) (US, Canadian,				

HARDWARE LIST					

#1	7-621-775-20	SCREW +PTT 2.6X5 (S)			
#2	7-621-775-40	SCREW +PTT 2.6X8 (S)			
#3	7-627-852-37	PRECISION SCREW +P1.7X1.8TYPE3			
#4	7-627-554-07	SCREW,PRECISION +P 2X2.2			
#5	7-627-855-07	SCREW,PRECISION +P 2X5.5 TYPE3			
#6	7-627-852-27	+P 1.7X3			

Ref. No.	Part No.	Description	Remark
#7	7-627-552-18	SCREW,PRECISION +P 1.7X1.6	
#8	7-627-852-58	SCREW,PRECISION +P 1.7X5 TYPE3	
#9	7-627-551-87	SCREW, PRECISION +P 1.4X1.8	

MOUNTING HARDWARE			

501	3-930-163-01	BASE (FITTING)	
502	X-3371-178-1	BRACKET ASSY	
503	7-682-961-01	SCREW +PSW 4X8	
504	4-304-511-00	NUT (M5), FLANGE	
505	3-930-181-01	BELT (25)	
506	3-930-166-01	CUSHION (FITTING)	
507		not supplied	
508	3-389-594-01	CLAMP, CORD	
509	1-590-519-21	CORD (WITH CONNECTOR) (BUS CABLE 5.5m)	
510	1-765-427-11	CORD, CONNECTION (RCA PIN CORD 5.5m)	

Parts for installation and connections
Pièces de montage et de raccordement
Montageteile und Anschlußzubehör
Componenti per installazione e collegamenti

x1

x1

x4

x2

x1

x3 (incl. 1 reserve)
(1 réserve comprise)
(einschl. 1 Teil als Ersatz)
(compresa 1 riserva)

x1

x3

x1

x1